

NAVY TRAINING SYSTEM PLAN

FOR THE

VERTICAL TAKEOFF AND LANDING

TACTICAL UNMANNED AERIAL VEHICLE

N75-NTSP-A-50-0004/D

JUNE 2001

**VERTICAL TAKEOFF AND LANDING
TACTICAL UNMANNED AERIAL VEHICLE**

EXECUTIVE SUMMARY

This Navy Training System Plan was developed to identify the life cycle manpower and training requirements associated with the Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV). The VTUAV system will replace the Pioneer Unmanned Aerial Vehicle (UAV) in both the U.S. Navy and U.S. Marine Corps. The VTUAV speed, endurance, and payload carrying capacity, combined with its ability to takeoff and land on all air-capable ships and from unimproved ground sites ashore, will provide the U.S. Navy and U.S. Marine Corps with a multi-purpose unmanned platform for Reconnaissance, Surveillance, and Target Acquisition (RSTA) missions.

The maintenance concept for the VTUAV will initially be organizational to depot. Post-fielding collection and analysis of maintenance and repair data could show that the addition of intermediate level maintenance may be appropriate.

Manpower requirements for the VTUAV system will be developed from the preventive and corrective maintenance requirements and the Navy and Marine Corps operational concepts. Operation and maintenance will be performed with skills resident within the Navy and Marine Corps aviation community.

A new follow-on training site will be established at NAS Whiting Field in FY05. The tentative Ready for Training date is third quarter FY07.

The VTUAV program is an Acquisition Category (ACAT) II program that just passed Milestone II; it is in Weapon System Acquisition Process Phase II (Engineering and Manufacturing Development). Initial Operating Capability is scheduled for fourth quarter FY03.

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ATTACHMENT A - VU Preliminary Squadron Manpower Document **ATTACHMENT - A**

ATTACHMENT B - Marine Corps Table of Organization T/O 8890 **ATTACHMENT - B**

**VERTICAL TAKEOFF AND LANDING
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LIST OF ACRONYMS

AD	Aviation Machinist's Mate
ADT	Airborne Data Terminal
AE	Aviation Electrician's Mate
ALSP	Acquisition Logistics Support Plan
AM	Aviation Structural Mechanic
AMTCS	Aviation Maintenance Training Continuum System
ARG	Amphibious Ready Group
ART	Airborne Relay Terminal
AT	Aviation Electronics Technician
ATE	Automatic Test Equipment
AV	Air Vehicle
AVO	Air Vehicle Operator
BIT	Built-In Test
CBT	Computer-Based Training
CIN	Course Identification Number
CNO	Chief of Naval Operations
COE	Concept Of Employment
C ⁴ I	Command, Control, Communication, Computer, and Intelligence
DC	Direct Current
DT	Developmental Test
EO	Electro-Optical
ET	Electronics Technician
FC	Fire Controlman
FPT	Firescout Proficiency Trainer
GCS	Ground Control Station
GDT	Ground Data Terminal
HMMWV	High Mobility Multipurpose Wheeled Vehicle
IOC	Initial Operational Capability
IR	Infrared

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LIST OF ACRONYMS

ISR	Intelligence, Surveillance, and Reconnaissance
ISS	Interim Supply Support
LPD	Amphibious Transport Dock
LMI	Logistics Management Information
LRU	Line Replaceable Unit
MATMEP	Maintenance Training Management and Evaluation Program
MC	Mission Commander
MCAS	Marine Corps Air Station
MEF	Marine Expeditionary Force
MEU	Marine Expeditionary Unit
MMP	Modular Mission Payload
MOS	Military Occupational Specialty
MSD	Material Support Date
MTIP	Maintenance Training Improvement Program
MTU	Maintenance Training Unit
NAMP	Naval Aviation Maintenance Program
NAMTG	Naval Air Maintenance Training Group
NAS	Naval Air Station
NATOPS	Naval Air Training and Operating Procedures Standardization
NAVICP	Naval Inventory Control Point
NEC	Navy Enlisted Classification
NTSP	Navy Training System Plan
ORD	Operational Requirements Document
OT	Operational Test
PSQMD	Preliminary Squadron Manpower Document
PQS	Personnel Qualification Standards
RDT	Remote Data Terminal
RFT	Ready For Training
ROR	Repair Of Repairables
RSTA	Reconnaissance, Surveillance, and Target Acquisition

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LIST OF ACRONYMS

SE	Support Equipment
SNCO	Senior Non-Commissioned Officer
SRA	Shop Replaceable Assembly
SRU	Shop Replaceable Unit
T/O	Table of Organization
TBD	To Be Determined
TCDL	Tactical Common Data Link
TCS	Tactical Control System
TD	Training Device
TTE	Technical Training Equipment
UAV	Unmanned Aerial Vehicle
UCARS	UAV Common Automatic Recovery System
USMC	United States Marine Corps
USN	United States Navy
VMU	Unmanned Aerial Vehicle Squadron (USMC)
VTUAV	Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle
VU	Unmanned Aerial Vehicle Squadron (USN)
WRA	Weapon Replaceable Assembly

**VERTICAL TAKEOFF AND LANDING
TACTICAL UNMANNED AERIAL VEHICLE**

PREFACE

This Draft Navy Training System Plan (NTSP) was developed by the Naval Air Systems Command (AIR 3.4.1) in accordance with the Navy Training Requirements Documentation Manual, OPNAV P-751-1-9-97. Its purpose is to document the manpower and training requirements for employment of the Vertical Take off and Landing Tactical Unmanned Aerial Vehicle (VTUAV) by Navy and Marine Corps activities. This NTSP updates the Initial NTSP of May 2000 and the NAVAIR In-house Draft of March 2001. Recent changes include:

- Mission Commanders are now included in Air Vehicle Operator training.
- The Air Vehicle Operator source rating is changed to any USN or USMC aviation rating or MOS.
- Developmental Testing (DT) and Operational Test (OT) schedules are updated.
- Initial training is updated.
- Various other editorial changes were made to Part I.

PART I - TECHNICAL PROGRAM DATA

A. NOMENCLATURE-TITLE-PROGRAM

1. Nomenclature-Title-Acronym. Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV)

2. Program Element. 0305204N

B. SECURITY CLASSIFICATION

- 1. System Characteristics** Unclassified
- 2. Capabilities** Unclassified
- 3. Functions**..... Unclassified

C. MANPOWER, PERSONNEL, AND TRAINING PRINCIPALS

- OPNAV Principal Official (OPO) Program Sponsor..... CNO (N754)
- OPO Resource Sponsor CNO (N769)
- Functional Mission Sponsor CNO (APW-81)
- Marine Corps Program Sponsor..... CMC (ASM-1)
- Developing Agency..... NAVAIRSYSCOM (PMA263)
- Training Agency CINCLANTFLT (N721)
CINCPACFLT (N70)
CNET (ETE32)
- Training Support Agency NAVAIRSYSCOM (PMA205)
- Manpower and Personnel Mission Sponsor CNO (N12)
NAVPERSCOM (PERS-4, PERS-404)
- Director of Naval Training CNO (N795)
- Marine Corps Force Structure..... MCCDC (C53)

D. SYSTEM DESCRIPTION

1. Operational Uses. Starting in the late 1980s, the deployment of the Pioneer Unmanned Aerial Vehicle (UAV) system demonstrated the utility of a sea-based UAV system. Production and fielding of the Pioneer UAV system ended in 1988 with minimal subsequent funding to provide system sustainment. While upgrades have continued to increase current capabilities until a replacement is fielded, these upgrades do not provide the combat radius, payload capacity, speed, or endurance required to support sustained operations.

As the requirement for organic surveillance collection capability continues to grow, UAVs must be capable of operating from a variety of ships with limited impact on flight deck operations. Additionally, these UAVs must be able to transition to shore-based operations. Pioneer, as a fixed-wing UAV with complex shipboard launch and recovery procedures and inadequate precision weapon targeting capabilities, has limited ability to support the new United States Navy (USN) and United States Marine Corps (USMC) operational concepts. The high mishap rate resulting from these difficult at-sea operations, along with its limited performance capabilities, were key factors in the decision to replace the Pioneer with the Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV).

The VTUAV will provide enhanced sea and area control by improving Commanders' awareness of conditions within the operational area. The VTUAV system is a joint USN and USMC system that provides a Reconnaissance, Surveillance, and Target Acquisition (RSTA)/Intelligence, Surveillance, and Reconnaissance (ISR), and communications relay capability in support of operations of forward deployed Navy and Marine Corps units both ashore and afloat. The system will be capable of operating day or night from all Navy air-capable ships and from unprepared land-based sites. This requires the system to operate in a very cluttered electromagnetic environment characteristic of the shipboard or battlefield environment. A detailed description of the operational uses is contained in the VTUAV Concept of Employment (COE).

2. Foreign Military Sales. No Foreign Military Sales are anticipated at this time.

E. DEVELOPMENTAL TEST AND OPERATIONAL TEST. Developmental Testing (DT) is composed of Developmental Flight Test, Shipboard Test, and Maintenance Demonstration. DT begins in first quarter FY02 and is scheduled to run through third quarter FY02. Shipboard DT will be conducted during fourth quarter FY02. An evaluation by Operational Test and Evaluation Force (OPTEVFOR) will be conducted beginning in first quarter FY03 and ending in fourth quarter FY03. Completion of OT will support Milestone Decision (MS) III to field a Navy and Marine Corps system.

F. AIRCRAFT AND/OR EQUIPMENT/SYSTEM/SUBSYSTEM REPLACED. The VTUAV system will replace existing Pioneer UAV systems currently deployed by Navy Battle Group Commanders and Marine Air Ground Task Force (MAGTF). It will be used for gathering

real-time intelligence imagery, RSTA/ISR, in support of maritime, amphibious, and ground battle operations.

G. DESCRIPTION OF NEW DEVELOPMENT

1. Functional Description. A VTUAV system consists of three Air Vehicles (AV), three Modular Mission Payloads (MMP), data links, two Remote Data Terminals (RDT) (Marine Corps only), launch and recovery equipment, and tactical communications equipment. The Marine Corps receives two Ground Control Stations (GCS) per system that are mounted in S-788 Shelters on a High Mobility Multipurpose Wheeled Vehicle (HMMWV). The Navy will receive one GCS per squadron mounted in an S-280 shelter. The GCS, tactical communications, transportation, and logistic support equipment will vary in number and configuration depending upon specific service and shipboard or land-based use requirements.

a. Air Vehicle. The “Firescout” AV is the airborne element of the VTUAV system and serves as the platform for MMP and airborne radio relay. The Firescout is a modified Schweizer 333 Model 269D Helicopter designated RQ-8A.

(1) Power Plant. The power plant (built-up engine) consists of the Allison Model 250-C20W engine, engine oil system, engine control system, engine fuel system, engine exhaust system, and engine ignition system. The engine fuel pump, fuel control-governor systems, and ignition system are considered part of the engine. The engine furnishes power through the drive assembly and transmissions to the main and tail rotors, and to accessories such as the generator.

(2) Power Train System. The power train system consists of a belt-drive main rotor gear drive assembly (main transmission), main rotor drive shaft, tail rotor drive shaft, tail rotor transmission, and related miscellaneous components. An overrunning (one-way) clutch placed between the engine and main rotor transmission permits freewheeling of the rotor system during autorotation.

(3) Main Rotor and Control System. The three bladed main rotor provides lateral and longitudinal control and the lifting force of the AV. The main rotor is fully articulated with flapping and lead-lag hinged blade attachments. It consists primarily of three folding and removable rotor blades attached to the main rotor blade pitch housing and a central hub. The main rotor is controlled by the collective and cyclic pitch control systems.

(4) Tail Rotor and Control System. The two bladed semi-rigid tail rotor is mounted on the tail rotor transmission at the end of the aft fuselage. The tail rotor counteracts main rotor torque and controls the heading of the AV. The rotor consists of two variable-pitch blades mounted on a teetering delta-type hub. The tail rotor control system produces directional control by varying the pitch of the tail rotor blades. Blade angle is controlled by a pitch control assembly, consisting of links connecting pitch control arms to a swashplate that slides axially on the tail rotor gearbox output shaft.

(5) Aft Fuselage Assembly and Tail Surfaces. The aft fuselage assembly is attached to the main fuselage by a six bolt attachment. The aft fuselage houses the tail rotor drive shaft, damper assemblies, and tail rotor control rods. The aft fuselage assembly supports the tail rotor gearbox adapter, tail rotor gearbox, and the vertical and horizontal stabilizers.

(6) Landing Gear. The landing gear consists of forward and aft crossbeams and left and right stabilizers. These are attached to the left and right landing skids through four skid struts and landing gear dampers. The landing gear dampers are installed between the crossbeams and skid struts to cushion landings.

(7) Light Harpoon. The Light Harpoon System will be used with an associated flight deck grid for securing the AV during shipboard launch and recovery operations.

(8) Electrical System. The AV electrical system is a single-wire, nominal 24-volt Direct Current (DC) system using the structure as a ground return. System power is supplied by a DC engine-driven starter-generator and a 24-volt battery. A second generator provides electrical power during autorotation. This second generator is driven by the tail rotor drive shaft.

(9) Avionics Suite. The avionics suite consists of components required to provide instrumentation, telemetry (data link), integrated guidance and flight control, automatic recovery, Identification Friend or Foe (IFF), communications, and targeting information.

b. Modular Mission Payload. The MMP is a self-contained, plug and play element designed to accomplish specific missions. The initial MMP consists of a combination of Electro Optic (EO) and Infrared (IR) sensors, and a laser designator. The MMP will provide near real-time imagery of the target area under day and night conditions.

c. Ground Control Station. The GCS provides the facilities to plan and monitor flights for the performance of assigned missions. It serves as a command post and as a work area. It has the capability to receive, process, and disseminate imagery products in accordance with Common Imagery Ground/Surface System (CIGSS) architecture. GCS planning includes using the AN/UYQ-70 series shipboard workstations and Tactical Control System (TCS) software with its five levels of system functionality.

(1) Level 1 - Receipt and Transmission of Secondary Imagery and/or Data. AV derived imagery and data is received through existing communications architectures without direct interaction with the AV. Level 1 can also include the further dissemination of imagery and data.

(2) Level 2 - Direct Receipt of Imagery and/or Data. UAV imagery and data is received directly from the AV without filtering or processing at another echelon or station. Receipt of imagery and data directly from the AV requires AV-specific data link control modules, ground data terminals, and the correct antenna configuration. Level 2 can also include the further dissemination of imagery and data.

(3) Level 3 - Control of the UAV Payload. This level provides the capability to control the UAV payload separate from control of the UAV, in addition to the capabilities of Levels 1 and 2. This capability requires dual data link systems that are not currently available.

(4) Level 4 - Control of the UAV. Level 4 provides the capability to control the UAV, less launch and recovery, in addition to the functions provided by Levels 1, 2, and 3. Level 4 requires UAV specific data link control modules, ground data terminals, and the correct antenna configuration.

(5) Level 5 - Full Control of the UAV. Level 5 provides the capability to fully control the UAV, including launch and recovery, in addition to all capabilities of Levels 1 through 4. Level 5 requires UAV-specific data link control modules, ground data terminals, and the correct antenna configuration.

d. Data Link. The data link provides continuous line-of-sight contact between system operators and the AV. Both a primary and secondary data link will be provided. There are three functional areas of the data link.

(1) Ground Data Terminal. The Ground Data Terminal (GDT) consists of those ground-based elements that provide the communications link (telemetry, commands, voice, and imagery) between the GCS and airborne communications units. It is planned that the Tactical Common Data Link (TCDL), when available, will be the VTUAV system GDT.

(2) Airborne Data Terminal. The Airborne Data Terminal (ADT) is one of the airborne communications units and connects the AV and/or MMP to the GDT or RDT. The ADT is used for the primary data link, which transmits imagery data, and AV and MMP telemetry. It receives GDT commands for the AV and MMP. MMP video will not be part of the downlink signal of the secondary data link.

(3) Airborne Relay Terminal. The Airborne Relay Terminal (ART) is one of the airborne communication units and connects the AV to the GDT, another AV, or a remote transceiver. The ART will be used for the secondary data link and will transmit voice, AV and MMP telemetry, and AV and MMP commands. It will receive GDT commands for the AV and the MMP. It will also relay voice or telemetry from another AV.

e. Remote Data Terminal. The RDT provides the user with Level 2 access to payload imagery external to the GCS displays. The RDT has no capability to control any function of the VTUAV; it only receives and displays video from the MMP.

2. Physical Description

a. Air Vehicle. The AV is a semi-monocoque structure constructed primarily of aluminum alloy. The main rotor is a fully articulated three bladed system, while the tail rotor is a

two bladed semi-rigid assembly. Power from the turboshaft engine is transmitted through eight belts and two drive shafts to the main and tail rotor transmissions.

Overall Length (main rotor blade forward).....	30 feet 10 inches
Height	10 feet 2 inches
Main Rotor Diameter.....	27 feet 6 inches
Length when Folded	22 feet 11 inches
Width when folded	6 feet 10 inches
Gross Weight.....	2,550 pounds
Payload Weight (projected maximum).....	200 pounds
Fuel Capacity	130 gallons *

* Weight will be dependent on type of fuel used.

b. Modular Mission Payload

Weight (current system).....	106 pounds
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c. Ground Control Station. Navy GCSs will be TCS compliant and integrated into workstations aboard AEGIS equipped ships. Specific GCS dimensions are not yet available but will be included when the final design of GCS hardware is made available.

d. Shelters. The Navy land-based GCS will be configured to fit an S-280 Shelter. The Marine Corps GCS will be mounted in an S-788 Shelter.

USN S-280 Shelter

Height	86.4 inches
Width	87.0 inches
Length.....	147.0 inches
Weight.....	1,400 pounds

USMC S-788 Shelter

Height	64.5 inches
Width	84.0 inches
Length.....	102.0 inches
Weight.....	608 pounds

3. New Development Introduction. The VTUAV is being procured through new production.

4. Significant Interfaces. The VTUAV system will support existing USN and USMC system external interfaces and implement an open-systems architecture standard. The VTUAV system possesses communication interfaces and is interoperable with all USN and USMC Command, Control, Communication, Computer, and Intelligence (C⁴I) interfaces specified by the TCS Operational Requirements Document (ORD) for VTUAV Software and with standard

meteorological information from the appropriate aviation command element or ship's weather department. These interfaces include:

- Automated Target Hand-off System (ATHS)
- Advanced Field Artillery Tactical Data System (AFATDS)
- Global Command and Control System - Maritime (GCCS-M)
- Joint Service Imagery Processing System - Navy (JSIPS-N)
- Joint Maritime Command Information System (JMCIS)
- Precision Targeting Workstation (PTW)
- Joint Deployable Intelligence Support System (JDISS)
- Tactical Exploitation Group (TEG)
- Trojan Spirit II (TS II)
- UAV Common Automatic Recovery System (UCARS)
- Closed Circuit Television (CCTV)

5. New Features, Configurations, or Material. No new features or materials result from this system development.

H. CONCEPTS

1. Operational Concept. The VTUAV systems will be operated and maintained by officer and enlisted personnel in Navy and Marine Corps UAV squadrons. When required, individual detachments or partial VTUAV systems will be combined to support protracted operations or to meet high demand tasking afloat or ashore. A single VTUAV system will be capable of providing 12 continuous hours on-station at 110 nautical miles within a 24-hour period. When two or more VTUAV systems are assigned to the Battle Group, Marine Expeditionary Force (MEF), or Marine Expeditionary Unit (MEU), operations can be extended to 24 continuous hours on-station.

The VTUAV GCS will be TCS compliant and will allow operations personnel to perform detailed route and payload planning and mission execution. Based on a route and payload plan, AVs can fly autonomously to areas of interest typically predetermined by intelligence preparation of the battlefield or cueing from other systems. Information received by the GCS will be processed, analyzed, and synthesized as necessary for dissemination via radio networks, service local area networks, or existing service C⁴I systems.

The two Navy Unmanned Aerial Vehicle Squadrons (VU) will provide shipboard detachments operating from air capable surface combatants (Cruisers (CG), Flight IIA Guided Missile Destroyers (DDG), and Destroyers (DD)) with the capability of either independent operations or future operations combined with Light Airborne Multi-Purpose System (LAMPS) detachments. Operating as an extension of the host ship's combat systems, the VTUAV detachments equipped with baseline EO/IR sensors will be used to detect and identify contacts of interest within the AV range of operation. Each Battle Group will be supported by one or more VTUAV systems, depending on the types of ships assigned to the Battle Group. VTUAV

operations will not take place from all surface combatants. It is anticipated that eventually all surface combatants will have the necessary data link and TCS hardware and software to interface with the VTUAV system. Surface combatants and Aircraft Carriers (CV/CVN) equipped with a stand-alone TCS will possess up to Level 4 capability.

The two Marine Corps Unmanned Aerial Vehicle Squadrons (VMU) will provide independent detachments capable of conducting operations afloat and ashore. This includes split ship-to-ship and split ship-to-shore operations. The VMU detachments will locate and identify major enemy forces, moving vehicles, and weapons that are firing on ground and air units, and other targets of interest as determined by the controlling activity. In addition, the VTUAV will conduct counter-mobility operations, provide security for rear area forces, and perform other such air operations as assigned by the MEF or MEU. There are three concepts of employment in support of the MEU. The first has AVs launched, recovered, and maintained aboard the Amphibious Transport Dock (LPD) with MMP operators residing onboard the Amphibious Ready Group (ARG) command ships. The second concept is also launched from the LPD with operations handed off to a HMMWV-mounted GCS ashore. This method of operation may require that detachment personnel be split between three locations: the ARG command ship, the LPD, and the shore component. The third option is limited operations ashore. This has the bulk of the detachment moving ashore to support operations, leaving a liaison aboard the ARG command ship for mission coordination. In this option, it may be necessary to split the maintenance personnel between the shore site and the LPD.

Because the VTUAV will be fielded in limited quantities and with the constraint of limited embarked spaces aboard amphibious ships, VTUAV Detachments will not routinely deploy to MEUs but may do so when operational requirements warrant. Detachments will be capable of rapidly integrating with the MEU when deployed from CONUS on short notice. The MEU may incorporate the VTUAV as part of deployment work-ups, with VMU Detachments kept on a tether so as to be rapidly deployed to support MEU operations.

The VTUAV system will be operable in conventional and unconventional combat situations. Operating in the forward area, the VTUAV will be exposed to a hostile environment, including tactical, nuclear, biological, and chemical warfare systems, and attack by air defense missiles, guns, electronic warfare systems, and other aircraft. A detailed description of the operational uses is contained in the VTUAV COE dated 15 December 2000.

2. Maintenance Concept. The VTUAV system will be maintained by enlisted personnel attached to UAV squadrons within the Navy and Marine Corps. The initial maintenance concept for the VTUAV is organizational to depot. Based on the post-fielding analysis of Logistics Management Information (LMI) maintenance and repair data, addition of intermediate level maintenance may be appropriate. The primary elements of a three-level concept as prescribed in OPNAVINST 4790.2G, the Naval Aviation Maintenance Program (NAMP) Manual, are described below. Under the cognizance of an aviation Type Commander (TYCOM), maintenance of equipment, AVs, MMPs, and mobile control stations will be accomplished in accordance with the NAMP. Shipboard personnel will accomplish maintenance of the ship-installed equipment, GCS, data link, antennas, and launch and recovery tracking equipment.

a. Organizational. Organizational level maintenance consists of those preventive and corrective maintenance actions normally performed by an operating unit in support of its own day-to-day operations. These actions include inspection, servicing, handling, fault isolation, removal and replacement of Weapon Replaceable Assemblies (WRA), and performing on-aircraft repairs. Built-In Test (BIT) will be used to the maximum extent.

Navy organizational level maintenance will include:

- System operation including launch and recovery, assembly, disassembly, and handling for transportation
- AV servicing and turnaround, including refueling, inspection, and testing prior to operation
- System reconfiguration, including MMP and communication system configuration changes
- Removal and replacement of WRA and Shop Replaceable Assemblies (SRA), troubleshooting connectors and required preventive maintenance
- Corrosion prevention and control
- Inspections, including daily, pre-flight, post-flight inspections, etc.

Marine Corps VMU squadron organizational level maintenance capabilities will also include:

- Performing organizational level maintenance on aviation equipment to include the VTUAV and Support Equipment (SE) in accordance with approved maintenance plans
- Conducting First and Limited Second Echelon maintenance on assigned USMC Ground Table of Equipment Assets including motor transport, engineering and communications equipment, and infantry weapons

Note: Marine Corps First and Limited Second Echelon maintenance is the equivalent of Navy organizational maintenance.

(1) Preventive Maintenance. Preventive maintenance is the care and servicing needed to maintain aircraft equipment, SE, and facilities in satisfactory operating condition by providing for systematic inspection, detection, and correction of incipient failures either before they occur or before they develop into major defects. Preventive maintenance on the VTUAV will be conducted at specified intervals in accordance with established procedures as outlined by the Maintenance Requirements Cards (MRC).

(2) Corrective Maintenance. Corrective maintenance is the work done to aircraft, aircraft equipment, and SE to improve, change, or restore their capability to perform specific missions or functions. It can be the replacement, removal, addition, alteration, or repair of parts, equipment, or aircraft without particular regard to flying hours, operating hours, calendar

days, or operating periods. Corrective maintenance includes, but is not limited to, modification, repair, and unscheduled inspection, replacement, or test.

b. Intermediate. Intermediate maintenance consists of repair, test, and calibration of WRAs, SRAs, and SE. Any determination that intermediate level maintenance is required will be partially based on the equipment selected for use with the VTUAV. Those components that currently have intermediate level maintenance capability will continue to require this support. Any other intermediate level support needs will be conducted in accordance with specific instructions contained in maintenance instruction manuals for the VTUAV system.

If required, Navy intermediate level maintenance will include:

- Direct Support, including isolating faults in defective Shop Replaceable Units (SRU) using BIT and fault indicators (a faulty SRU that cannot be diagnosed on-site will be transferred to the next maintenance level)
- General Support, including isolating faults in Line Replaceable Units (LRU) and SRU chassis-mounted components and wiring harnesses using SE and maintenance publications
- Ship and shore repair of subassemblies as determined by Logistics Support Analysis and Level Of Repair Analysis (LORA)

If required, Marine Corps intermediate level maintenance will also include:

- The Combat Service Support Detachment (CSSD) performing Third and Fourth Echelon maintenance on USMC Ground Table of Equipment Assets

Note: Marine Corps Third and Forth Echelon maintenance is the equivalent of Navy intermediate maintenance.

If required, the Marine Aviation Logistics Squadron (MALS) or ship intermediate level maintenance department will perform intermediate level maintenance on aviation equipment and aviation support equipment in accordance with approved Maintenance Plans.

c. Depot. Depot level maintenance for the VTUAV system will consist of all repair actions Beyond the Capability of Maintenance (BCM) of the intermediate level maintenance activities. The general rework and manufacture of items coded for depot repair, assembly, or manufacture will be in accordance with the VTUAV Maintenance Plan. Depot maintenance requirements include both organic and commercial depot repair sites. Depot repair has been designated as the Original Equipment Manufacturer.

d. Interim Maintenance. An Interim Supply Support (ISS) program will be established and maintained to provide interim support of VTUAV system assemblies, subassemblies, components, and repair parts. The Naval Inventory Control Point (NAVICP) Philadelphia (Logistics Element Manager Code 0333.30) and the contractor will manage the ISS program until the Material Support Date (MSD), anticipated to be July 2006. At Initial Operating

Capability (IOC), the ISS program will include Government-owned, Contractor-operated bonded warehouses, and a Contractor Repair of Repairables (ROR) site. Prior to release of production systems, the Government will direct shipment of interim support material to ISS bond rooms located at Naval Air Station (NAS) North Island, California, and Marine Corps Air Station (MCAS) Beaufort, South Carolina.

e. Life Cycle Maintenance Plan. Life cycle maintenance plans are not available at this time but will be included in updates to this NTSP when developed.

3. Manning Concept. Maintenance manpower for the VTUAV system will be driven by the preventive and corrective maintenance requirements and the Navy and Marine Corps operational concepts. Operation and maintenance of the VTUAV system will be performed with skills resident within the aviation community of the Navy and Marine Corps with two exceptions:

- Intelligence Specialist requirements (such as Intelligent Specialist (IS) or Operations Specialist (OS) for USN applications, or Imagery Analyst for the USMC)
- Maintenance of shipboard installed components (to be maintained by ship’s company personnel)

A Fleet Introduction Team will be established at MCAS Miramar, California, consisting of one officer and six enlisted personnel as follows:

Officer in Charge.....	Major	MOS 72XX
SNCO.....	GySgt	MOS 7314
Operator	Sgt	MOS 7314
Mechanic	Sgt	MOS 6214
Technician.....	Sgt	MOS 6314
Operator	AT1	NEC 83XA
Supply.....	AK1	To Be Determined (TBD)

The VU Shore and Sea Component Preliminary Squadron Manpower Document (PSQMD) was developed based on a 3.467 Maintenance Man-Hour per Flight Hour (MMH/FH) and can be found as Attachment A to this NTSP. As the system matures and LMI data becomes available, the PSQMD will be revised to reflect the most current information.

Marine Corps manpower will be based on a revised Pioneer Table of Organization (T/O) 8890. This document was reviewed at a T/O Conference at Patuxent River, Maryland, on 28 November 2000, and is in the process of being revised to reflect the Marine Corps requirements to support the VTUAV system. The revised T/O 8890 will replace Attachment B of this NTSP when it becomes available.

Note: The currently approved T/O 8890 was used to develop Parts II and III of this NTSP. When the revised T/O 8890 becomes available, that information will be updated in a future iteration of this document.

a. Operation. Operation will be by Navy and Marine Corps officer and enlisted personnel trained as Mission Commanders (MC) and Air Vehicle Operators (AVO). MCs and AVOs will be OPNAV Instruction 3710.7 Series qualified, with qualification and certification as Mission Commander or AVO managed by the individual's parent squadron. The number of AVOs required for VTUAV system operation is driven by the respective service's operational scenarios and system composition. The endurance requirement for twelve continuous hours on-station at one hundred ten nautical miles requires approximately a 16-hour operating cycle. In order to maintain flight safety and crew rest requirements for the required concept of employment, qualified operators (MCs and AVOs) are required for each watch station.

Note: "Air Vehicle Operator" is the term used for Navy personnel who are dual qualified as both Pilot and the Payload operator.

The Navy Detachment will operate a single GCS (shipboard mounted) consisting of two workstations, Mission Payload Operator (MPO) (MC or AVO (enlisted pilot)) and Air Vehicle Operator. The MPO and AVO workstations will be manned by a qualified Mission Commander or AVO. Navy Operator manpower is projected to require three officers and three enlisted personnel per system to meet this requirement on a watch standing basis.

Marine Corps Operator manpower requirements to support the VTUAV program are under review. A T/O Conference was held at Patuxent River, Maryland, on 28 November 2000. Recommended manpower changes will be included in updates to this document when a revised T/O is available from Headquarters Marine Corps and Total Force Structure Division of the Marine Corps Combat Development Command, Quantico, Virginia.

b. Maintenance. Maintenance will be performed by Navy and Marine Corps personnel with skills resident within the Aviation Machinist's Mate (AD), Aviation Electrician's Mate (AE), Aviation Structural Mechanic (AM), Aviation Electronics Technician (AT), Electronics Technician (ET), and the Fire Controlman (FC) ratings. The preliminary estimate for Navy Detachment maintenance manpower is five ADs, four AEs, four AMs, four ATs, one Aviation Administrationman (AZ), and one Maintenance Chief Petty Officer.

Marine Corps maintenance manpower requirements to support the VTUAV program are under review. A T/O Conference was held at Patuxent River, Maryland, on 28 November 2000. Recommended manpower changes will be included in updates to this document when a revised T/O is available from Headquarters Marine Corps and Total Force Structure Division of the Marine Corps Combat Development Command, Quantico, Virginia.

The following are the projected operator and maintainer positions with Designators, Navy Enlisted Classification (NEC) codes, and Military Occupational Specialties (MOS) to support the VTUAV:

NAVY POSITIONS, DESIGNATORS, AND NECs:

Mission Commander, Designator 1302

- Air Warfare Qualified Officer
- Formal Training

UAV Air Vehicle Operator, NEC 83XA

- Primary NEC
- Formal Training
- E-5 through E-7
- Source Ratings - Any enlisted aviation rating E-5 or above
- Naval Air Training and Operating Procedures Standardization (NATOPS) Qualified
- Air Intercept Controller Certified

UAV System Technician, NEC 83XB

- Primary NEC
- Formal Training
- E-2 through E-8
- Source Ratings - AD, AE, AM, AT

UAV Systems Administrator, NEC 83XC

- Secondary NEC
- Formal Training
- E-5 through E-8
- Source Ratings - AT (ET and FC decision pending)

Note: This will be a secondary NEC for the UAV Systems Technician.

MARINE CORPS POSITIONS AND MOSs:

Mission Commander, MOS 7315

- Secondary MOS
- Formal Training
- Qualified Naval Aviator, Naval Flight Officer, Air Command and Control Officer, Air Defense Control Officer, or Air Traffic Control Officer

UAV Air Vehicle Operator, MOS 7314

- Primary MOS
- Formal Training
- E-1 through E-9
- OPNAV 3710 NATOPS Qualified

Note: The Marine Corps “Air Vehicle Operator” includes Pilot, Payload, and Remote Data Terminal (RDT) operators.

UAV Mechanic, MOS 6214

- Primary MOS
- Formal Training
- E-1 through E-7

UAV Avionics Technician, MOS 6314

- Primary MOS
- Formal Training
- E-1 through E-7

4. Training Concept. The goal of the VTUAV training program is to provide the Navy and Marine Corps with qualified Mission Commanders, Air Vehicle Operators, and maintenance personnel for system employment and support. Development and implementation of training will provide designated personnel with the necessary knowledge and skills to adequately support the VTUAV system. The contractor will develop and conduct familiarization training for DT, and initial training for OT, upon Navy and Marine Corps site activation and VTUAV training facility site activation. Representative training courses to be developed by the contractor are for initial training of MC, VTUAV Pilot, VTUAV Payload Operator, and VTUAV system Technicians (Electronic, Electrical, and Mechanical). Naval Air Maintenance Training Group Detachment (NAMTRAGRU DET) Instructors will provide VTUAV follow-on training for Navy and Marine Corps personnel at NAS Whiting Field beginning in FY07.

The training facility for the VTUAV system GCS will have an enhanced version of the fleet Full Mission Capable Training Device and software. This system will have additional capabilities necessary for the formal training environment. This will include a set of mission scenarios and emergency procedures used to bring students up to speed from a zero system knowledge base. Training software will be separable into Part Task Trainers to allow for remedial training on specific areas, e.g., Route and Payload Planning, Maintenance and Troubleshooting, etc.

It is possible that after receipt and review of LMI data, other Training Devices may be required for such things as rotor system component removal and installation, rotor blade balancing, and engine gearbox and drive train component removal and installation.

A Firescout Proficiency Trainer (FPT) will allow for proficiency training at the squadron level of previously qualified and certified MCs and AVOs.

The established training concept for most aviation maintenance training divides “A” School courses into two or more segments called *Core* and *Strand*. Many organizational level “C” School courses are also divided into separate *Initial* and *Career* training courses. The VTUAV system training program will not be separated into *Initial* and *Career* courses.

a. Initial Training. The prime contractor will develop and lead system familiarization training for designated DT Government and Support contractor personnel. In addition, they will lead operator and maintenance training for OT and for activation of the first three sites. This will be delta training for previously qualified Pioneer operators. At a minimum, the following VTUAV initial training will be provided:

- Mission Commander – Officer
- VTUAV Pilot – Officer (MC) or Enlisted Pilot In Control
- VTUAV Payload Operator – Enlisted Operator
- VTUAV Electronics Maintainer – Enlisted
- VTUAV Mechanical Maintainer - Enlisted

Title VTUAV System Familiarization

Description This course provides DT personnel with familiarization training on system operation and maintenance requirements. This includes system descriptions and operational characteristics for the:

- AV
- GCS
- RDT
- MMP
- UCARS-V2
- TCDL

Upon completion of this course, the student will have an understanding of operation and maintenance characteristics of the VTUAV in an operational environment.

Location TBD

Length 3 days

.....

RFT date One month prior to DT

TTE/TD VTUAV system

Prerequisites Designated Government and Support Contractor personnel with Developmental Testing responsibilities

Title	VTUAV Mission Commander
Description	<p>This course provides OT training to selected officers to perform as MCs, including:</p> <ul style="list-style-type: none"> ◦ Communications ◦ Crew Coordination ◦ Route and Payload Planning ◦ Preflight, Flight, and Post-Flight Operational Procedures ◦ Safety of Flight Requirements ◦ Emergency Procedures ◦ NATOPS Procedures <p>Upon completion of this course, the trainee will be able to safely supervise the operation of the VTUAV as MC in the OT environment.</p>
Location	TBD
Length	10 Days
RFT date	One month prior to OT and site activation
TTE/TD	VTUAV system
Prerequisites	Naval Aviator or Naval Flight Officer and AVO

Title	VTUAV Pilot
Description	<p>This course provides OT training to selected contractor, USN, and USMC enlisted and officer personnel to perform as AV Pilots, including:</p> <ul style="list-style-type: none"> ◦ Route and Payload Planning ◦ Crew Coordination ◦ Safety of Flight Requirements ◦ Preflight, Flight, and Post Flight Operational Procedures ◦ Emergency Procedures ◦ NATOPS Procedures <p>Upon completion of this course, the trainee will be able to safely fly the VTUAV in the OT environment under supervision.</p>

Location TBD

 Length 33 days
 RFT date 30 to 60 days prior to OT and site activation

 TTE/TD VTUAV system

 Prerequisites ° USN and USMC Aviation Rating/MOS
 ° E-5 and above
 ° Naval Aviator or Naval Flight Officer

Title VTUAV Payload Operator

Description This course provides OT training to selected contractor, USN, and USMC enlisted personnel to perform as Payload Operators, including:
 ° Route and Payload Planning
 ° Crew Coordination
 ° Safety of Flight Requirements
 ° Preflight, Flight, and Post Flight Operational Procedures
 ° Emergency Procedures
 ° NATOPS Procedures
 Upon completion of this course, the trainee will be able to operate the VTUAV payload in the OT environment under supervision.

Location TBD

 Length 10 days
 RFT date 30 to 60 days prior to OT and site activation

 TTE/TD VTUAV system

 Prerequisites ° USN and USMC Aviation Rating/MOS
 ° E-5 and above

Title	VTUAV Electronics Maintainer
Description	<p>This course provides training to selected enlisted personnel to perform OT organizational level maintenance on the electrical and electronic elements of the VTUAV AV, Global Positioning System, GCS, MMP, TCDL, UCARS-V2, and RDT, including:</p> <ul style="list-style-type: none"> ◦ Built-In Test Operation ◦ Fault Detection and Isolation Procedures ◦ WRA and SRA Removal and Replacement ◦ Signal Flow, Tracking, and Communication ◦ Preventive and Corrective Maintenance <p>Upon completion of this course, the trainee will have sufficient knowledge and skills, including troubleshooting and repair procedures, to perform organizational level maintenance on the GCS System in the OT environment without supervision.</p>
Location	TBD
Length	33 Days
RFT date	30 to 60 days prior to OT and site activation
TTE/TD	VTUAV system
Prerequisites	<ul style="list-style-type: none"> ◦ USN AT and AE Rating ◦ USMC Aviation Electronics or Aviation Electrical MOS ◦ E-4 and above

Title	VTUAV Mechanical Maintainer
Description	<p>This course provides training to selected enlisted personnel to perform OT organizational level maintenance on the power plant, drive train, and airframe elements of the VTUAV including:</p> <ul style="list-style-type: none"> ◦ Flight Line Operations ◦ Weight and Balance ◦ Subsystem Operation ◦ Preventive and Corrective Maintenance ◦ System Component Removal and Replacement ◦ Assembly and Disassembly ◦ Repair Procedures <p>Upon completion of this course, the trainee will have sufficient knowledge and skills on VTUAV power plant and airframe elements to perform organizational level maintenance on the VTUAV in the OT environment under supervision.</p>
Location	TBD
Length	40 days
RFT date	60 days prior to OT and site activation
TTE/TD	VTUAV system
Prerequisites	<ul style="list-style-type: none"> ◦ USN AD or AM Rating ◦ USMC Aircraft Mechanic or Aviation Structural Mechanic MOS ◦ E-4 and above

b. Follow-on Training. Follow-on training depends on the identification of the systems, subsystems, and equipment that will comprise the VTUAV system, and will result in an analysis of applicable existing training that may be fully or partially integrated into the VTUAV training program. Follow-on training is planned to be located at Maintenance Training Unit (MTU) XXXX Naval Air Maintenance Training Group Detachment (NAMTRAGRU DET) Whiting Field, Florida. The Ready for Training (RFT) date is anticipated to be third quarter FY07. Contractor-developed initial training materials and applicable existing training materials will be revised, integrated, and upgraded per VTUAV Training Integrated Product Team (IPT) and NAMTG to form a cohesive and viable VTUAV Computer-Based Training (CBT) program for operator and maintenance personnel. Delta courses will be required for FC and ET courses

that support and maintain ship installed consoles. At a minimum, the follow-on training listed below will be required to support fleet operations of the VTUAV system.

Title	VTUAV Mission Commander
CIN	C-2E-XXXXA
Model Manager...	MTU XXXX NAMTRAGRU DET
Description	This course provides training to officers to perform as MCs, including: <ul style="list-style-type: none"> ◦ Introduction to the VTUAV system ◦ Communications ◦ Crew Coordination ◦ Route and Payload Planning ◦ Preflight, Flight, and Post Flight Operational Procedures ◦ Safety of Flight Requirements ◦ Emergency Procedures ◦ NATOPS Procedures <p>Upon completion of this course, the trainee will be able to safely supervise the flight of the VTUAV as MC in a squadron environment under limited supervision.</p>
Location	MTU XXXX NAMTRAGRU DET Whiting Field
Length	19 days
RFT date	Third Quarter FY07
Skill identifier	USN: 1302 USMC: 7315
TTE/TD	◦ VTUAV Proficiency Trainer ◦ VTUAV Training System
Prerequisites	Naval Aviator or Naval Flight Officer and AVO

Title	VTUAV Air Vehicle Operator
CIN	C-104-XXXX
Model Manager...	MTU XXXX NAMTRAGRU DET
Description	This course provides training to officer and aviation enlisted personnel to perform as AV Pilots, including: <ul style="list-style-type: none"> ◦ Introduction to the VTUAV system ◦ Route and Payload Planning ◦ Crew Coordination ◦ Preflight, Flight, and Post Flight Operational Procedures ◦ Safety of Flight Requirements ◦ Emergency Procedures ◦ NATOPS Procedures <p>Upon completion of this course, the trainee will be able to safely fly the VTUAV and operate the payload in a squadron environment under limited supervision.</p>
Location	MTU XXXX NAMTRAGRU DET Whiting Field
Length	54 days <ul style="list-style-type: none"> ◦ 6 weeks - Pilot ◦ 2 weeks - Payload Operator
RFT date	Third Quarter FY07
Skill identifier.....	USN: AE 83XA, AT 83XA, and USN 1302 USMC: MOS 7314 and 7315
TTE/TD	◦ VTUAV Proficiency Trainer ◦ VTUAV Training System
Prerequisites	◦ USN or USMC Aviation Rating/MOS ◦ E-5 and above ◦ Applicable “A” school graduate ◦ Naval Aviator or Naval Flight Officer 1302

Note: If required, a separate web-based CBT course will be developed to train additional payload and RDT operators.

Title	VTUAV Systems Electronics Technician
.....	
CIN	C-690-XXXX
.....	
Model Manager...	MTU XXXX NAMTRAGRU DET
Description	<p>This modularized course provides training to selected enlisted personnel to perform organizational level maintenance on the electrical and electronic elements of the VTUAV AV, GCS, TCDL, UCARS-V2, GPS, and RDT, including:</p> <ul style="list-style-type: none"> ◦ Introduction to the VTUAV system ◦ Built-In Test Operation ◦ Fault Detection and Isolation Procedures ◦ WRA Removal and Replacement Instructions ◦ Signal Flow, Tracking, and Communication ◦ Preventive and Corrective Maintenance ◦ Repair Procedures <p>Upon completion of this course, the trainee will have sufficient knowledge and skills to perform organizational level maintenance on the VTUAV in a squadron environment under limited supervision.</p>
Location	MTU XXXX NAMTRAGRU DET Whiting Field
.....	
Length	<p>54 days:</p> <ul style="list-style-type: none"> ◦ 19 days - AV Maintenance ◦ 33 days - Ground Systems Electronics Maintenance
RFT date	Third Quarter FY07
.....	
Skill identifier.....	<p>USN: AT 83XB, AE 83XB, ET 1424, FC 1118 USMC: MOS 6314</p>
TTE/TD	VTUAV AV and Electronic Systems Maintenance Trainers
.....	
Prerequisites	<ul style="list-style-type: none"> ◦ USN AT or AE Rating ◦ USMC Aviation Electronics or Aviation Electrical MOS ◦ E-2 and above ◦ Applicable "A" school graduate

Note: This course will be modularized to accommodate personnel requiring specific component training.

Title	VTUAV Mechanical Technician
.....	
CIN	C-690-XXXB
.....	
Model Manager...	MTU XXXX NAMTRAGRU DET
Description	<p>This course provides training to enlisted personnel to perform organizational level maintenance on the power plant and airframe elements of the VTUAV system, including:</p> <ul style="list-style-type: none"> ◦ Introduction to the VTUAV system ◦ Flight Line Operations ◦ Weight and Balance ◦ Subsystem Operation and Maintenance ◦ Preventive and Corrective Maintenance ◦ Assembly and Disassembly ◦ System Component Removal and Replacement ◦ Repair Procedures <p>Upon completion of this course, the trainee will have sufficient knowledge and skills to perform organizational level maintenance on the VTUAV in a squadron environment under limited supervision.</p>
Location	MTU XXXX NAMTRAGRU DET Whiting Field
.....	
Length	54 days
RFT date	Third Quarter FY07
.....	
Skill identifier ...	USN: AD 83XB or AM 83XB USMC: MOS 6214
TTE/TD	AV Maintenance Trainer
.....	
Prerequisites	<ul style="list-style-type: none"> ◦ USN AD or AM Rating ◦ USMC Aircraft Mechanic or Aviation Structural Mechanic MOS ◦ E-2 and above ◦ Applicable "A" school graduate

Title **VTUAV Systems Administrator**
.....

CIN **C-XXX-XXXX**
.....

Model Manager... **MTU XXXX NAMTRAGRU DET**

Description This course provides training to enlisted personnel in the concepts, processes, knowledge, and skills required for system administration, including:

- Information Systems Administrator Overview
- Configuration Management
- System Administration Operational Support Tasks
- User Accounts, Access Rights, and Directory Services

Upon completion of this course, the trainee will have sufficient knowledge and skills to perform all functions related to the operation and management of the GCS under limited supervision.

Location **MTU XXXX NAMTRAGRU DET Whiting Field**
.....

Length 5 days

RFT date **Third Quarter FY07**
.....

Skill identifier ... **USN: AT 83XC, ET 1424, FC 1118**
USMC: MOS 6314

TTE/TD **GCS Maintenance Trainer**
.....

Prerequisites

- Navy AT
- USMC Aviation Electronics MOS
- E-5 and above
- C-690-XXXX, VTUAV systems Electronics Technician
- Applicable “A” school graduate

In addition to the above, the maintenance of shipboard mounted components will require the following ET and FC courses be modified to include the appropriate GCS, TCS, and UCARS maintenance information:

RATING	NEC	CIN	TITLE
ET	1424	A-101-0209	AN/SQQ-4 LAMPS MK-3 Data Link Transceiver Maintenance

RATING	NEC	CIN	TITLE
FC	1118	S-150-0238	AEGIS Display System Operation and Maintenance Track 1
FC	1118	S-150-0273	AEGIS Display System Operation and Maintenance Track 2
FC	1118	S-150-0277	AEGIS Display System Operation and Maintenance Track 3

c. Student Profiles

SKILL IDENTIFIER	PREREQUISITE SKILL AND KNOWLEDGE REQUIREMENTS
AD	<ul style="list-style-type: none"> ° C-601-2011, Aviation Machinist’s Mate Common Core Class A1 <li style="padding-left: 20px;">And ° C-601-2012, Aviation Machinist’s Mate Helicopter Fundamentals Strand Class A1 <li style="padding-left: 20px;">Or ° C-601-2013, Aviation Machinist’s Mate Turboprop Fundamentals Strand Class A1 <li style="padding-left: 20px;">Or ° C-601-2014, Aviation Machinist’s Mate Turbojet Fundamentals Strand Class A1
AE	<ul style="list-style-type: none"> ° C-100-2020, Avionics Common Core Class A1 ° C-602-2039, Aviation Electrician’s Mate O Level Strand Class A1
AM	<ul style="list-style-type: none"> ° C-603-0175, Aviation Structural Mechanic (Structures and Hydraulics) Common Core Class A1 ° C-603-0176, Aviation Structural Mechanic (Structures and Hydraulics) O-Level Maintenance Strand Class A1
AT	<ul style="list-style-type: none"> ° C-100-2020, Avionics Common Core Class A1 ° C-100-2018, Avionics Technician O Level Class A1 ° C-100-2017, Avionics Technician I Level Class A1
ET	<ul style="list-style-type: none"> ° A-100-0138, Electronics Technician Core A School ° A-100-0139, Advanced Electronics Technical Core ° A-100-0140, Electronics Technician Strand A School
FC	<ul style="list-style-type: none"> ° A-100-0139, Advanced Electronics Technical Core ° A-100-0141, Fire Controlman Class A Strand

SKILL IDENTIFIER	PREREQUISITE SKILL AND KNOWLEDGE REQUIREMENTS
MOS 6214	<ul style="list-style-type: none"> ° C-603-0175, Aviation Structural Mechanic S (Structures and Hydraulics) Common Core Class A1 <li style="padding-left: 20px;">And ° C-603-0176, Aviation Structural Mechanic (Structures and Hydraulics) Strand Class A1 <li style="padding-left: 20px;">Or both ° C-601-2011, Aviation Machinist's Mate Common Core Class A1 <li style="padding-left: 20px;">And ° C-601-2011, Aviation Machinist's Mate Turboprop Fundamentals Strand Class A1
MOS 6314	<ul style="list-style-type: none"> ° C-100-2020, Avionics Common Core Class A1 <li style="padding-left: 20px;">And either ° C-602-2039, Aviation Electrician's Mate O Level Strand Class A1 <li style="padding-left: 20px;">Or ° C-100-2018, Avionics Technician O Level Class A1
MOS 7314	<ul style="list-style-type: none"> ° C-100-2020, Avionics Common Core Class A1 <li style="padding-left: 20px;">And either ° C-602-2039, Aviation Electrician's Mate O Level Strand Class A1 <li style="padding-left: 20px;">Or ° C-100-2018, Avionics Technician O Level Class A1
MOS 7315	<ul style="list-style-type: none"> ° Qualified Marine Corps Aviator

d. Training Pipelines. See H.4.b above for training pipelines.

I. ONBOARD (IN-SERVICE) TRAINING

1. Proficiency or Other Training Organic to the New Development. Proficiency training will be accomplished through the use of FPT for MCs and AVOs.

a. Maintenance Training Improvement Program. Current planning is to adopt the Aviation Maintenance Training Continuum System (AMTCS) concepts to replace the Maintenance Training Improvement Program (MTIP). AMTCS is scheduled to begin full implementation for fleet deployment in FY01.

b. Aviation Maintenance Training Continuum System. AMTCS will provide career path training to the Sailor or Marine from their initial service entry to the end of their military

career. AMTCS is planned to be an integrated system that will satisfy the training and administrative requirements of both the individual and the organization. By capitalizing on technological advances and integrating systems and processes where appropriate, the right amount of training can be provided at the right time, thus meeting the CNO's mandated "just-in-time" training approach.

Technology investments enable the development of several state-of-the-art training and administrative tools: CBT for the technicians in the Fleet in the form of Interactive Courseware (ICW) with Computer Managed Instruction (CMI) and Computer Aided Instruction (CAI) for the schoolhouse.

Included in the AMTCS development effort is the Aviation Maintenance Training Continuum System - Software Module (ASM) which provides testing [Test and Evaluation (TEV)], recording [Electronic Training Jacket (ETJ)], and a Feedback system. The core functionality of these AMTCS tools are based and designed around the actual maintenance-related tasks the technicians perform, and the tasks are stored and maintained in a Master Task List (MTL) data bank. These tools are procured and fielded with appropriate Commercial Off The Shelf (COTS) hardware and software, i.e., Fleet Training Devices (FTD) - Laptops, Personnel Computers (PCs), Electronic Classrooms (ECR), Learning Resource Centers (LRC), operating software, and network software and hardware.

Upon receipt of direction from OPNAV (N789H), AMTCS is to be implemented and the new tools integrated into the daily training environment of all participating aviation activities and supporting elements. AMTCS will serve as the standard training system for aviation maintenance training within the Navy and Marine Corps, and is planned to supersede the existing MTIP and Maintenance Training Management and Evaluation Program (MATMEP) programs. AMTCS implementation will begin with the F-14, E-2C, and all models of F/A-18 aircraft. For more information on AMTCS, refer to PMA205-3D3.

2. Personnel Qualification Standards. A decision to require VTUAV specific Personnel Qualification Standards (PQS) has not been made. Any decision concerning PQS development will be included in future updates to this NTSP.

3. Other Onboard or In-Service Training Packages. Marine Corps onboard training is based on the current series of MCO P4790.12, Individual Training Standards System and MATMEP. This program is designed to meet Marine Corps, as well as Navy OPNAVINST 4790.2 series, maintenance training requirements. It is a performance-based, standardized, level-progressive, documentable, training management and evaluation program. It identifies and prioritizes task inventories by MOS through a front-end analysis process that identifies task, skill, and knowledge requirements of each MOS. MTIP questions coupled to MATMEP tasks will help identify training deficiencies that can be enhanced with refresher training. MATMEP is planned to be replaced by AMTCS.

J. LOGISTICS SUPPORT

1. Manufacturer and Contract Numbers

CONTRACT NUMBER	MANUFACTURER	ADDRESS
N00019-00-C-0277	Northrop Grumman Aero, Rancho Bernardo	17066 Golden Top Rd San Diego, CA 92127

2. Program Documentation. The COE dated 15 December 2000, Acquisition Logistics Support Plan (ALSP 263-02), and ORD (JROCM 04-99) have been developed to support the VTUAV program.

3. Technical Data Plan. Technical manuals to support USN and USMC requirements will be developed in an electronic format that is compatible with the maintenance data collection system and the individual electronic technical training record.

4. Test Sets, Tools, and Test Equipment. If special Test Sets, Tools, and Test Equipment are required, design considerations will allow for maximum use of common tools and test sets, minimizing the use of unique test sets, tools, and test equipment. Any required support equipment will have diagnostic and fault isolation capability to facilitate troubleshooting, repair, and/or replacement of components. Organizational level support equipment will be capable of providing comprehensive end-to-end verification and validation of system operability. If intermediate or depot level maintenance requirements for the VTUAV system require the use of Automatic Test Equipment (ATE), then the specific ATE will be selected from the approved Department of Defense family of ATE.

5. Repair Parts. An ISS program will be established and maintained to provide interim support of VTUAV system assemblies, subassemblies, components, and repair parts. ISS will be managed by the NAVICP Philadelphia Logistics Element Manager (Code 0333.30) and the contractor until MSD. The IOC will occur when one Navy and one Marine Corps system are fielded sometime during fourth quarter FY03. At IOC, the ISS program will include Government-owned contractor-operated bonded warehouses, and a contractor ROR site. Prior to release of production systems, the Government will direct shipment of interim support material to ISS bond rooms located at NAS North Island and MCAS Beaufort.

6. Human Systems Integration. Human Engineering requirements associated with the VTUAV system are specified in the VTUAV performance specification. These actions will be conducted in accordance with the general guidelines of DoD Instruction 5000.2. The Human Engineering requirements will translate into program tasking determined by the contractor, presented in the contractor's statement of work. PMA205 will be the lead for the Human Engineering program with assistance from Government systems engineering and the contractor counterparts. The Human Systems Integration program will consider man-loading estimates, facility, and equipment requirements associated with the evolving VTUAV system design. The

program will consider the total system performance characteristics and techniques for integrating the human into the system design.

K. SCHEDULES. No detailed delivery schedule is available at this time. IOC is planned for fourth quarter FY03 with Full Operational Capability (FOC) expected in third quarter FY05. Navy Ready For Training (RFT) will be in third quarter FY07. Further information will be provided as it becomes available with updates to this NTSP.

1. Installation and Delivery Schedules. A notional delivery plan and aviation stand-up are included here for planning purposes only (see page 30). Addition requirements will be addressed in future revisions to this NTSP.

2. Ready For Operational Use Schedule. NA

3. Time Required to Install at Operational Sites. NA

4. Foreign Military Sales and Other Source Delivery Schedule. No foreign military sales are anticipated for this system at this time.

5. Training Device and Technical Training Equipment Delivery Schedule. Training Device (TD) and Technical Training Equipment (TTE) deliveries must be no later than six months prior to the RFT.

NOTIONAL VTUAV FIELDING PLAN

22 JULY 2000

LOCATION	FISCAL YEAR														
	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	TOTAL
SQUADRONS															
VMU-X (USMC)			S1	S2			S5	S8	S9	S11	S13	S15			8
AV/PAYLOAD			3	3	0	0	3	3	3	3	3	3	0	0	
GCS (LAND)			2	2	0	0	2	2	2	2	2	2	0	0	
VU-X (USN)						S4	S6	S7	S10	S12	S14	S16/17	S18/19	S21/22	12
AV/PAYLOAD						3	3	3	3	3	3	3	3	3	
GCS (LAND)						1	1	0	0	0	0	0	0	0	
TRAINING															
NAMTRAGRU					S3										1
AV/PAYLOAD					6	0	0	0	0	0	0	0	0	0	
GCS(LAND)					2	0	0	0	0	0	0	0	0	0	
PREPOSITIONING															
USMC													S20	S23/24	3
													1	2	
TOTAL SYSTEMS			1	1	1	1	2	2	2	2	2	3	3	4	24

AVIATION PERSONNEL/DETACHMENT STANDUP

LOCATIONS	FISCAL YEAR														
	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	TOTAL
VMU DETACHMENTS			1	1			1	1	1	1	1	1			8
VU DETACHMENTS						1	1	1	1	1	1	2	2	2	12
NAMTRAGRU					1										
FIT															
USMC															
USN															

L. GOVERNMENT-FURNISHED EQUIPMENT AND CONTRACTOR-FURNISHED EQUIPMENT TRAINING REQUIREMENTS. NA

M. RELATED NTSPs AND OTHER APPLICABLE DOCUMENTS

DOCUMENT OR NTSP TITLE	DOCUMENT OR NTSP NUMBER	PDA CODE	STATUS
Operational Requirements Document for the VTUAV	JROCM 04-99		Approved 13 Jan 99
Operational Requirements Document for the TCS	JROC0 011-97		3 Feb 97
Concept of Employment for the VTUAV		N754D	15 Dec 00
Acquisition Logistics Support Plan VTUAV	ALSP-263-02	PMA263	8 Oct 99
Joint Training System Plan for the TCS for UAV	N85-JTSP-P-50-9801/D	CNO (N85)	Draft Apr 99
Navy Training System Plan for the Pioneer UAV	N88-NTSP-A-50-8622D/D	CNO (N859T)	Draft Apr 99

PART II - BILLET AND PERSONNEL REQUIREMENTS

The following elements are not affected by the VTUAV and, therefore, are not included in Part II of this NTSP:

II.A. Billet Requirements

II.A.2.a. Operational and Fleet Support Activity Deactivation Schedule

II.A.2.b. Billets to be Deleted in Operational and Fleet Support Activities

II.A.2.c. Total Billets to be Deleted in Operational and Fleet Support Activities

Note: A deactivation schedule for the Pioneer System is not currently available. It is expected that deactivation will occur between FY07 and FY09. When available, this information will be included in updates to this document.

PART II - BILLET AND PERSONNEL REQUIREMENTS

II.A. BILLET REQUIREMENTS

II.A.1.a. OPERATIONAL AND FLEET SUPPORT ACTIVITY ACTIVATION SCHEDULE

SOURCE OF BILLETS: PSQMD

DATE: 11/1/200

ACTIVITY, UIC	PFYs	CFY05	FY06	FY07	FY08	FY09
OPERATIONAL ACTIVITIES - NAVY						
VTUAV VU East Shore	00000	0	0	1	0	0
VTUAV VU East Sea (Det 1)	00000	0	0	1	0	0
VTUAV VU East Sea (Det 2)	00000	0	0	0	1	0
VTUAV VU East Sea (Det 3)	00000	0	0	0	0	1
VTUAV VU West Shore	00000	0	0	0	0	1
VTUAV VU West Sea (Det 1)	00000	0	0	0	0	1
TOTAL:		0	0	2	1	2
OPERATIONAL ACTIVITIES - USMC						
VMU-1	01480	1	0	0	0	0
VMU-2	01490	0	0	0	0	1
TOTAL:		1	0	0	0	1
FLEET SUPPORT ACTIVITIES - USMC						
FIT MCAS Miramar	00000	1	0	0	0	0
TOTAL:		1	0	0	0	0

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS		DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
	OFF	ENL			
OPERATIONAL ACTIVITIES - NAVY					
VTUAV VU East Shore, 00000, FY06 Increment					
ACDU	1	0	1000		
	1	0	1202		
	7	0	1302		
	1	0	6330		
	1	0	6380		
	1	0	6410		
	1	0	7340		
	0	2	AD1	83XB	
	0	1	AD1	83XB	9502
	0	1	AD3	83XB	
	0	1	AE1	83XB	
	0	1	AE1	83XB	9502
	0	1	AKC		
	0	1	AK1		
	0	2	AK2		
	0	1	AK2		9590
	0	3	AK3		
	0	3	AKAN		
	0	2	AM1	83XB	
	0	1	AM1	83XB	9502
	0	1	AM1	83XB	9595
	0	1	AM1		9595
	0	3	AM3	83XB	
	0	2	AMAN	83XB	
	0	1	APOCM	8300	
	0	1	APOCM	9580	
	0	2	APOCS		
	0	1	APOCS	83XB	
	0	1	APOC		
	0	6	APO1		
	0	1	APO1	8301	
	0	1	APO1	83XB	
	0	7	APO2		
	0	1	APO3		
	0	2	AT1	83XB	
	0	1	AT1	83XB	9502
	0	1	AT3	83XB	
	0	1	AZC		
	0	2	AZ2		
	0	1	AZ2	6315	
	0	1	AZ3		
	0	1	IT1	2781	
	0	1	IT3	2735	
	0	1	NC1		

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS		DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
	OFF	ENL			
	0	1	YNC		
ACDU	0	1	YN1		
	0	2	YN2		
	0	1	YN3		
	0	4	YNSN		
	0	28	AN		
ACTIVITY TOTAL:	13	98			
VTUAV VU East Sea (Det 1), 00000, FY06 Increment					
ACDU	3	0	1302		
	0	1	AD1	83XB	
	0	1	AD2	83XB	
	0	1	AD3	83XB	
	0	2	ADAN	83XB	
	0	1	AE1	83XB	
	0	1	AE2	83XB	
	0	1	AE3	83XB	
	0	1	AEAN	83XB	
	0	1	AM1	83XB	
	0	1	AM2	83XB	
	0	1	AM3	83XB	
	0	1	AMAN	83XB	
	0	1	APOC		
	0	1	APO1	83XA	
	0	2	APO2	83XA	
	0	1	AT1	83XB	83XC
	0	1	AT2	83XB	
	0	1	AT3	83XB	
	0	1	ATAN	83XB	
	0	1	AZ2		
	0	1	IS2		
ACTIVITY TOTAL:	3	23			
VTUAV VU East Sea (Det 2), 00000, FY07 Increment					
ACDU	3	0	1302		
	0	1	AD1	83XB	
	0	1	AD2	83XB	
	0	1	AD3	83XB	
	0	2	ADAN	83XB	
	0	1	AE1	83XB	
	0	1	AE2	83XB	
	0	1	AE3	83XB	
	0	1	AEAN	83XB	
	0	1	AM1	83XB	
	0	1	AM2	83XB	
	0	1	AM3	83XB	
	0	1	AMAN	83XB	

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS		DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
	OFF	ENL			
ACDU	0	1	APOC		
	0	1	APO1	83XA	
	0	2	APO2	83XA	
	0	1	AT1	83XB	83XC
	0	1	AT2	83XB	
	0	1	AT3	83XB	
	0	1	ATAN	83XB	
	0	1	AZ2		
	0	1	IS2		
ACTIVITY TOTAL:	3	23			
VTUAV VU East Sea (Det 3), 00000, FY08 Increment					
ACDU	3	0	1302		
	0	1	AD1	83XB	
	0	1	AD2	83XB	
	0	1	AD3	83XB	
	0	2	ADAN	83XB	
	0	1	AE1	83XB	
	0	1	AE2	83XB	
	0	1	AE3	83XB	
	0	1	AEAN	83XB	
	0	1	AM1	83XB	
	0	1	AM2	83XB	
	0	1	AM3	83XB	
	0	1	AMAN	83XB	
	ACDU	0	1	APOC	
0		1	APO1	83XA	
0		2	APO2	83XA	
0		1	AT1	83XB	83XC
0		1	AT2	83XB	
0		1	AT3	83XB	
0		1	ATAN	83XB	
0		1	AZ2		
0		1	IS2		
ACTIVITY TOTAL:	3	23			

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS		DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
	OFF	ENL			
VTUAV VU West Shore, 00000, FY09 Increment					
ACDU	1	0	1000		
	1	0	1202		
	7	0	1302		
	1	0	6330		
	1	0	6380		
	1	0	6410		
	1	0	7340		
	0	2	AD1	83XB	
	0	1	AD1	83XB	9502
	0	1	AD3	83XB	
	0	1	AE1	83XB	
	0	1	AE1	83XB	9502
	0	1	AKC		
	0	1	AK1		
	0	2	AK2		
	0	1	AK2		9590
	0	3	AK3		
	0	3	AKAN		
	0	2	AM1	83XB	
	0	1	AM1	83XB	9502
	0	1	AM1	83XB	9595
	0	1	AM1		9595
	0	3	AM3	83XB	
	0	2	AMAN	83XB	
	0	1	APOCM	8300	
	0	1	APOCM	9580	
	0	2	APOCS		
	0	1	APOCS	83XB	
	0	1	APOC		
	0	6	APO1		
	0	1	APO1	8301	
	0	1	APO1	83XB	
	0	7	APO2		
	0	1	APO3		
	0	2	AT1	83XB	
	0	1	AT1	83XB	9502
	0	1	AT3	83XB	
	0	1	AZC		
	0	2	AZ2		
	0	1	AZ2	6315	
	0	1	AZ3		
	0	1	IT1	2781	
	0	1	IT3	2735	
	0	1	NC1		
	0	1	YNC		
	0	1	YN1		
	0	2	YN2		
	0	1	YN3		

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS		DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
	OFF	ENL			
	0	4	YNSN		
	0	28	AN		
ACTIVITY TOTAL:	13	98			
VTUAV VU West Sea (Det 1), 00000, FY09 Increment					
ACDU	3	0	1302		
	0	1	AD1	83XB	
	0	1	AD2	83XB	
	0	1	AD3	83XB	
	0	2	ADAN	83XB	
	0	1	AE1	83XB	
	0	1	AE2	83XB	
	0	1	AE3	83XB	
	0	1	AEAN	83XB	
	0	1	AM1	83XB	
	0	1	AM2	83XB	
	0	1	AM3	83XB	
	0	1	AMAN	83XB	
	0	1	APOC		
	0	1	APO1	83XA	
	0	2	APO2	83XA	
	0	1	AT1	83XB	83XC
	0	1	AT2	83XB	
	0	1	AT3	83XB	
	0	1	ATAN	83XB	
	0	1	AZ2		
	0	1	IS2		
ACTIVITY TOTAL:	3	23			

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS		DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
	OFF	ENL			
OPERATIONAL ACTIVITIES - USMC					
VMU-1, 01480, FY03 Increment					
USMC	1	0	CAPT	0202	
	1	0	CAPT	0402	
	4	0	CAPT	9969	7315
	1	0	CWO2	0170	
	1	0	CWO2	6302	
	1	0	LT	0207	
	1	0	LTCOL	9969	7315
	1	0	MAJ	6002	
	1	0	MAJ	7202	7315
	2	0	MAJ	7210	7315
	1	0	MAJ	9969	7315
	0	1	CPL	1142	
	0	2	CPL	0121	
	0	1	CPL	0151	
	0	3	CPL	0231	
	0	1	CPL	3043	
	0	4	CPL	3521	
	0	1	CPL	3531	
	0	2	CPL	0411	
	0	3	CPL	6046	
	0	1	CPL	6072	
	0	5	CPL	0621	
	0	5	CPL	6214	
	0	3	CPL	6314	
	0	1	CPL	6413	
	0	1	CPL	6423	
	0	1	CPL	6466	
	0	1	CPL	6492	
	0	1	CPL	6672	
	0	10	CPL	7314	
	0	1	CPL	8711	
	0	1	GYSGT	0193	
	0	1	GYSGT	0241	
	0	1	GYSGT	6214	
	0	1	GYSGT	6314	
	0	1	GYSGT	0691	
	0	1	GYSGT	7041	
	0	2	GYSGT	7314	
ACDU	0	1	HM1	8404	
	0	2	HM3	8404	
USMC	0	5	LCPL	1141	
	0	2	LCPL	1142	
	0	1	LCPL	0121	
	0	1	LCPL	1345	
	0	1	LCPL	0151	
	0	1	LCPL	2111	

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS		DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
	OFF	ENL			
USMC	0	1	LCPL	3043	
	0	2	LCPL	3381	
	0	4	LCPL	3521	
	0	1	LCPL	3531	
	0	2	LCPL	4066	
	0	1	LCPL	0411	
	0	1	LCPL	6072	
	0	1	LCPL	6073	
	0	2	LCPL	0612	
	0	12	LCPL	0621	
	0	11	LCPL	6214	
	0	10	LCPL	6314	
	0	1	LCPL	6432	
	0	1	LCPL	6672	
	0	20	LCPL	7314	
	0	1	MSGT	6019	
	0	1	MSGT	7314	
	0	3	SGT	0241	
	0	1	SGT	3043	
	0	1	SGT	3521	
	0	3	SGT	3531	
	0	1	SGT	0431	
	0	1	SGT	6042	
	0	1	SGT	6073	
	0	2	SGT	0621	
	0	3	SGT	6214	
	0	2	SGT	6314	
	0	1	SGT	6466	
	0	1	SGT	6672	
	0	1	SGT	7041	
	0	3	SGT	7314	
	0	1	SGTMAJ	9999	
	0	1	SSGT	0231	
	0	1	SSGT	0241	
	0	1	SSGT	2861	
	0	1	SSGT	3529	
	0	1	SSGT	3537	
	0	2	SSGT	0431	
	0	2	SSGT	6046	
	0	2	SSGT	6214	
0	1	SSGT	0629		
0	1	SSGT	6314		
0	2	SSGT	7314		
0	1	SSGT	8421		
ACTIVITY TOTAL:	15	183			

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS		DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
	OFF	ENL			
VMU-2, 01490, FY09 Increment					
USMC	1	0	CAPT	0202	
	1	0	CAPT	0402	
	4	0	CAPT	9969	7315
	1	0	CWO2	0170	
	1	0	CWO2	6302	
	1	0	LT	0207	
	1	0	LTCOL	9969	7315
	1	0	MAJ	6002	
	1	0	MAJ	7202	7315
	2	0	MAJ	7210	7315
	1	0	MAJ	9969	7315
	0	1	CPL	1142	
	0	2	CPL	0121	
	0	1	CPL	0151	
	0	3	CPL	0231	
	0	1	CPL	3043	
	0	4	CPL	3521	
	0	1	CPL	3531	
	0	2	CPL	0411	
	0	3	CPL	6046	
	0	1	CPL	6072	
	0	5	CPL	0621	
	0	5	CPL	6214	
	0	3	CPL	6314	
	0	1	CPL	6413	
	0	1	CPL	6423	
	0	1	CPL	6466	
	0	1	CPL	6492	
	0	1	CPL	6672	
	0	10	CPL	7314	
	0	1	CPL	8711	
	0	1	GYSGT	0193	
	0	1	GYSGT	0241	
	0	1	GYSGT	6214	
	0	1	GYSGT	6314	
	0	1	GYSGT	0691	
	0	1	GYSGT	7041	
	0	2	GYSGT	7314	
ACDU	0	1	HM1	8404	
	0	2	HM3	8404	
USMC	0	5	LCPL	1141	
	0	2	LCPL	1142	
	0	1	LCPL	0121	
	0	1	LCPL	1345	
	0	1	LCPL	0151	
	0	1	LCPL	2111	
	0	1	LCPL	3043	
	0	2	LCPL	3381	
	0	4	LCPL	3521	

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS		DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
	OFF	ENL			
USMC	0	1	LCPL	3531	
	0	2	LCPL	4066	
	0	1	LCPL	0411	
	0	1	LCPL	6072	
	0	1	LCPL	6073	
	0	2	LCPL	0612	
	0	12	LCPL	0621	
	0	11	LCPL	6214	
	0	10	LCPL	6314	
	0	1	LCPL	6432	
	0	1	LCPL	6672	
	0	20	LCPL	7314	
	0	1	MSGT	6019	
	0	1	MSGT	7314	
	0	3	SGT	0241	
	0	1	SGT	3043	
	0	1	SGT	3521	
	0	3	SGT	3531	
	0	1	SGT	0431	
	0	1	SGT	6042	
	0	1	SGT	6073	
	0	2	SGT	0621	
	0	3	SGT	6214	
	0	2	SGT	6314	
	0	1	SGT	6466	
	0	1	SGT	6672	
	0	1	SGT	7041	
	0	3	SGT	7314	
	0	1	SGTMAJ	9999	
	0	1	SSGT	0231	
	0	1	SSGT	0241	
	0	1	SSGT	2861	
	0	1	SSGT	3529	
	0	1	SSGT	3537	
	0	2	SSGT	0431	
	0	2	SSGT	6046	
	0	2	SSGT	6214	
	0	1	SSGT	0629	
	0	1	SSGT	6314	
	0	2	SSGT	7314	
0	1	SSGT	8421		
ACTIVITY TOTAL:	15	183			

FLEET SUPPORT ACTIVITIES - USMC

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS		DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
	OFF	ENL			
FIT MCAS Miramar, 00000, FY01 Increment					
USMC	1	0	MAJ	7200	
ACDU	0	1	AK1		
	0	1	APO1	83XA	
USMC	0	1	GYSGT	7314	
	0	1	SGT	6214	
	0	1	SGT	6314	
	0	1	SGT	7314	
ACTIVITY TOTAL:	1	6			

Note: Marine Corps operator and maintenance manpower requirements to support the VTUAV program are under review. A T/O Conference was held at Patuxent River, Maryland, on 28 November 2000. Recommended manpower changes will be included in updates to this document when a revised T/O is available from Headquarters, Marine Corps and Total Force Structure Division, Marine Corps Combat Development Command, Quantico, Virginia.

II.A.1.c. TOTAL BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

DESIG/ RATING	PNEC/SNEC PMOS/SMOS	PFYs		CFY05		FY06		FY07		FY08		FY09	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
NAVY OPERATIONAL ACTIVITIES - ACDU													
1000		0		0		1		0		0		1	
1202		0		0		1		0		0		1	
1302		0		0		10		3		3		10	
6330		0		0		1		0		0		1	
6380		0		0		1		0		0		1	
6410		0		0		1		0		0		1	
7340		0		0		1		0		0		1	
AD1	83XB		0		0		3		1		1		3
AD1	83XB 9502		0		0		1		0		0		1
AD2	83XB		0		0		1		1		1		1
AD3	83XB		0		0		2		1		1		2
ADAN	83XB		0		0		2		2		2		2
AE1	83XB		0		0		2		1		1		2
AE1	83XB 9502		0		0		1		0		0		1
AE2	83XB		0		0		1		1		1		1
AE3	83XB		0		0		1		1		1		1
AEAN	83XB		0		0		1		1		1		1
AKC			0		0		1		0		0		1
AK1			0		0		1		0		0		1
AK2			0		0		2		0		0		2
AK2	9590		0		0		1		0		0		1
AK3			0		0		3		0		0		3
AKAN			0		0		3		0		0		3
AM1	9595		0		0		1		0		0		1
AM1	83XB		0		0		3		1		1		3
AM1	83XB 9502		0		0		1		0		0		1
AM1	83XB 9595		0		0		1		0		0		1
AM2	83XB		0		0		1		1		1		1
AM3	83XB		0		0		4		1		1		4
AMAN	83XB		0		0		3		1		1		3
APOCM	8300		0		0		1		0		0		1
APOCM	9580		0		0		1		0		0		1
APOCS			0		0		2		0		0		2
APOCS	83XB		0		0		1		0		0		1
APOC			0		0		2		1		1		2
APO1			0		0		6		0		0		6
APO1	8301		0		0		1		0		0		1
APO1	83XA		0		0		1		1		1		1
APO1	83XB		0		0		1		0		0		1
APO2			0		0		7		0		0		7
APO2	83XA		0		0		2		2		2		2
APO3			0		0		1		0		0		1
AT1	83XB		0		0		2		0		0		2
AT1	83XB 83XC		0		0		1		1		1		1
AT1	83XB 9502		0		0		1		0		0		1

II.A.1.c. TOTAL BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

DESIG/ RATING	PNEC/SNEC PMOS/SMOS	PFYs		CFY05		FY06		FY07		FY08		FY09	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
AT2	83XB		0		0		1		1		1		1
AT3	83XB		0		0		2		1		1		2
ATAN	83XB		0		0		1		1		1		1
AZC			0		0		1		0		0		1
AZ2			0		0		3		1		1		3
AZ2	6315		0		0		1		0		0		1
AZ3			0		0		1		0		0		1
IS2			0		0		1		1		1		1
IT1	2781		0		0		1		0		0		1
IT3	2735		0		0		1		0		0		1
NC1			0		0		1		0		0		1
YNC			0		0		1		0		0		1
YN1			0		0		1		0		0		1
YN2			0		0		2		0		0		2
YN3			0		0		1		0		0		1
YNSN			0		0		4		0		0		4
AN			0		0		28		0		0		28
USMC OPERATIONAL ACTIVITIES - ACDU													
HM1	8404		1		0		0		0		0		1
HM3	8404		2		0		0		0		0		2
USMC OPERATIONAL ACTIVITIES - USMC													
CAPT	0202		1		0		0		0		0		1
CAPT	0402		1		0		0		0		0		1
CAPT	9969 7315		4		0		0		0		0		4
CWO2	0170		1		0		0		0		0		1
CWO2	6302		1		0		0		0		0		1
LT	0207		1		0		0		0		0		1
LTCOL	9969 7315		1		0		0		0		0		1
MAJ	6002		1		0		0		0		0		1
MAJ	7202 7315		1		0		0		0		0		1
MAJ	7210 7315		2		0		0		0		0		2
MAJ	9969 7315		1		0		0		0		0		1
CPL	1142		1		0		0		0		0		1
CPL	0121		2		0		0		0		0		2
CPL	0151		1		0		0		0		0		1
CPL	0231		3		0		0		0		0		3
CPL	3043		1		0		0		0		0		1
CPL	3521		4		0		0		0		0		4
CPL	3531		1		0		0		0		0		1
CPL	0411		2		0		0		0		0		2
CPL	6046		3		0		0		0		0		3
CPL	6072		1		0		0		0		0		1
CPL	0621		5		0		0		0		0		5
CPL	6214		5		0		0		0		0		5
CPL	6314		3		0		0		0		0		3
CPL	6413		1		0		0		0		0		1

II.A.1.c. TOTAL BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

DESIG/ RATING	PNEC/SNEC PMOS/SMOS	PFYs		CFY05		FY06		FY07		FY08		FY09	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
CPL	6423		1		0		0		0		0		1
CPL	6466		1		0		0		0		0		1
CPL	6492		1		0		0		0		0		1
CPL	6672		1		0		0		0		0		1
CPL	7314		10		0		0		0		0		10
CPL	8711		1		0		0		0		0		1
GYSGT	0193		1		0		0		0		0		1
GYSGT	0241		1		0		0		0		0		1
GYSGT	6214		1		0		0		0		0		1
GYSGT	6314		1		0		0		0		0		1
GYSGT	0691		1		0		0		0		0		1
GYSGT	7041		1		0		0		0		0		1
GYSGT	7314		2		0		0		0		0		2
LCPL	1141		5		0		0		0		0		5
LCPL	1142		2		0		0		0		0		2
LCPL	0121		1		0		0		0		0		1
LCPL	1345		1		0		0		0		0		1
LCPL	0151		1		0		0		0		0		1
LCPL	2111		1		0		0		0		0		1
LCPL	3043		1		0		0		0		0		1
LCPL	3381		2		0		0		0		0		2
LCPL	3521		4		0		0		0		0		4
LCPL	3531		1		0		0		0		0		1
LCPL	4066		2		0		0		0		0		2
LCPL	0411		1		0		0		0		0		1
LCPL	6072		1		0		0		0		0		1
LCPL	6073		1		0		0		0		0		1
LCPL	0612		2		0		0		0		0		2
LCPL	0621		12		0		0		0		0		12
LCPL	6214		11		0		0		0		0		11
LCPL	6314		10		0		0		0		0		10
LCPL	6432		1		0		0		0		0		1
LCPL	6672		1		0		0		0		0		1
LCPL	7314		20		0		0		0		0		20
MSGT	6019		1		0		0		0		0		1
MSGT	7314		1		0		0		0		0		1
SGT	0241		3		0		0		0		0		3
SGT	3043		1		0		0		0		0		1
SGT	3521		1		0		0		0		0		1
SGT	3531		3		0		0		0		0		3
SGT	0431		1		0		0		0		0		1
SGT	6042		1		0		0		0		0		1
SGT	6073		1		0		0		0		0		1
SGT	0621		2		0		0		0		0		2
SGT	6214		3		0		0		0		0		3
SGT	6314		2		0		0		0		0		2
SGT	6466		1		0		0		0		0		1
SGT	6672		1		0		0		0		0		1

II.A.1.c. TOTAL BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

DESIG/ RATING	PNEC/SNEC PMOS/SMOS	PFYs		CFY05		FY06		FY07		FY08		FY09	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
SGT	7041		1		0		0		0		0		1
SGT	7314		3		0		0		0		0		3
SGTMAJ	9999		1		0		0		0		0		1
SSGT	0231		1		0		0		0		0		1
SSGT	0241		1		0		0		0		0		1
SSGT	2861		1		0		0		0		0		1
SSGT	3529		1		0		0		0		0		1
SSGT	3537		1		0		0		0		0		1
SSGT	0431		2		0		0		0		0		2
SSGT	6046		2		0		0		0		0		2
SSGT	6214		2		0		0		0		0		2
SSGT	0629		1		0		0		0		0		1
SSGT	6314		1		0		0		0		0		1
SSGT	7314		2		0		0		0		0		2
SSGT	8421		1		0		0		0		0		1
USMC FLEET SUPPORT ACTIVITIES - ACDU													
AK1			1		0		0		0		0		0
APO1	83XA		1		0		0		0		0		0
USMC FLEET SUPPORT ACTIVITIES - USMC													
MAJ	7200		1		0		0		0		0		0
GYSGT	7314		1		0		0		0		0		0
SGT	6214		1		0		0		0		0		0
SGT	6314		1		0		0		0		0		0
SGT	7314		1		0		0		0		0		0
SUMMARY TOTALS:													
NAVY OPERATIONAL ACTIVITIES - ACDU													
			0		0		16		121		3		23
					0						3		23
					0								16
					0								121
USMC OPERATIONAL ACTIVITIES - ACDU													
			3		0		0		0		0		3
USMC OPERATIONAL ACTIVITIES - USMC													
			15		180		0		0		0		0
					0		0		0		0		15
					180								180
USMC FLEET SUPPORT ACTIVITIES - ACDU													
			2		0		0		0		0		0
USMC FLEET SUPPORT ACTIVITIES - USMC													
			1		4		0		0		0		0
					0		0		0		0		0
					4								4

II.A.1.c. TOTAL BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

DESIG/ RATING	PNEC/SNEC PMOS/SMOS	PFYs		CFY05		FY06		FY07		FY08		FY09	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
GRAND TOTALS:													
NAVY - ACDU		0	0	0	0	16	121	3	23	3	23	16	121
USMC - ACDU			5		0		0		0		0		3
USMC - USMC		16	184	0	0	0	0	0	0	0	0	15	180

II.A.3. TRAINING ACTIVITIES INSTRUCTOR AND SUPPORT BILLET REQUIREMENTS

DESIG RATING	PNEC/SNEC PMOS/SMOS	PFYs		CFY05		FY06		FY07		FY08		FY09	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL

TRAINING ACTIVITY, LOCATION, UIC: MTU XXXX NAMTRAGRU DET Whiting Field, Florida, 31714

INSTRUCTOR BILLETS

ACDU

AE1	83XA	9502	0	2	0	2	0	2	0	2	0	2	0	2
ATCS	83XB	9502	0	1	0	1	0	1	0	1	0	1	0	1
ATC	83XA	9502	0	0	0	0	0	1	0	1	0	1	0	1
AT1	83XA	9502	0	0	0	0	0	1	0	1	0	1	0	1
AT1	83XB	9502	0	1	0	1	0	1	0	1	0	1	0	1

USMC

CPL	6214		0	0	0	0	0	1	0	1	0	1	0	1
CPL	6314		0	0	0	0	0	1	0	1	0	1	0	1
GYSGT	6214		0	1	0	1	0	1	0	1	0	1	0	1
SGT	6214		0	1	0	1	0	1	0	1	0	1	0	1
SGT	6314		0	0	0	0	0	1	0	1	0	1	0	1
SGT	7314		0	2	0	2	0	4	0	4	0	4	0	4
SSGT	6314		0	0	0	0	0	1	0	1	0	1	0	1
SSGT	7314		0	0	0	0	0	2	0	2	0	2	0	2

SUPPORT BILLETS

ACDU

6380			1	0	1	0	1	0	1	0	1	0	1	0
AD1			0	1	0	1	0	1	0	1	0	1	0	1
AE1	83XB		0	0	0	0	0	1	0	1	0	1	0	1
AKC			0	0	0	0	0	1	0	1	0	1	0	1
AK2			0	1	0	1	0	1	0	1	0	1	0	1
AM2	83XB		0	0	0	0	0	1	0	1	0	1	0	1
AMSC	83XB		0	0	0	0	0	1	0	1	0	1	0	1
ATC			0	1	0	1	0	1	0	1	0	1	0	1
AT1	83XB		0	0	0	0	0	1	0	1	0	1	0	1
AT1	83XB	83XC	0	0	0	0	0	1	0	1	0	1	0	1
AT2	83XB		0	0	0	0	0	1	0	1	0	1	0	1
AZ1			0	1	0	1	0	1	0	1	0	1	0	1
YN1			0	1	0	1	0	1	0	1	0	1	0	1

TOTAL: 1 13 1 13 1 30 1 30 1 30 1 30

II.A.4. CHARGEABLE STUDENT BILLET REQUIREMENTS

ACTIVITY, LOCATION, UIC	USN/ USMC	PFYs		CFY05		FY06		FY07		FY08		FY09	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
MTU XXXX NAMTRAGRU DET Whiting Field, Florida, 31714													
	NAVY	0.0	0.0	0.4	1.1	1.8	6.8	1.2	5.3	1.8	6.9	2.8	9.7
	USMC	0.0	0.0	0.4	3.2	0.4	4.1	0.4	3.5	0.6	5.4	2.1	13.4

SUMMARY TOTALS:

	NAVY	0.0	0.0	0.4	1.1	1.8	6.8	1.2	5.3	1.8	6.9	2.8	9.7
	USMC	0.0	0.0	0.4	3.2	0.4	4.1	0.4	3.5	0.6	5.4	2.1	13.4

GRAND TOTALS:

		0.0	0.0	0.8	4.3	2.2	10.9	1.6	8.8	2.4	12.3	4.9	23.1
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II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS	BILLET BASE	CFY05		FY06		FY07		FY08		FY09	
				+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM

a. OFFICER - USN

Operational Billets ACDU and TAR

1000			0	0	0	1	1	0	1	0	1	1	2
1202			0	0	0	1	1	0	1	0	1	1	2
1302			0	0	0	10	10	3	13	3	16	10	26
6330			0	0	0	1	1	0	1	0	1	1	2
6380			0	0	0	1	1	0	1	0	1	1	2
6410			0	0	0	1	1	0	1	0	1	1	2
7340			0	0	0	1	1	0	1	0	1	1	2

Staff Billets ACDU and TAR

6380			1	0	1	0	1	0	1	0	1	0	1
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Chargeable Student Billets ACDU and TAR

			0	1	1	1	2	-1	1	1	2	1	3
--	--	--	---	---	---	---	---	----	---	---	---	---	---

TOTAL USN OFFICER BILLETS:

Operational			0	0	0	16	16	3	19	3	22	16	38
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Staff			1	0	1	0	1	0	1	0	1	0	1
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Chargeable Student			0	1	1	1	2	-1	1	1	2	1	3
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b. ENLISTED - USN

Operational Billets ACDU and TAR

AD1	83XB		0	0	0	3	3	1	4	1	5	3	8
AD1	83XB	9502	0	0	0	1	1	0	1	0	1	1	2
AD2	83XB		0	0	0	1	1	1	2	1	3	1	4
AD3	83XB		0	0	0	2	2	1	3	1	4	2	6
ADAN	83XB		0	0	0	2	2	2	4	2	6	2	8
AE1	83XB		0	0	0	2	2	1	3	1	4	2	6
AE1	83XB	9502	0	0	0	1	1	0	1	0	1	1	2
AE2	83XB		0	0	0	1	1	1	2	1	3	1	4
AE3	83XB		0	0	0	1	1	1	2	1	3	1	4
AEAN	83XB		0	0	0	1	1	1	2	1	3	1	4
AKC			0	0	0	1	1	0	1	0	1	1	2
AK1			0	0	0	1	1	0	1	0	1	1	2
AK2			0	0	0	2	2	0	2	0	2	2	4
AK2		9590	0	0	0	1	1	0	1	0	1	1	2
AK3			0	0	0	3	3	0	3	0	3	3	6
AKAN			0	0	0	3	3	0	3	0	3	3	6
AM1		9595	0	0	0	1	1	0	1	0	1	1	2

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS	BILLET BASE	CFY05		FY06		FY07		FY08		FY09	
				+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM
AM1	83XB		0	0	0	3	3	1	4	1	5	3	8
AM1	83XB	9502	0	0	0	1	1	0	1	0	1	1	2
AM1	83XB	9595	0	0	0	1	1	0	1	0	1	1	2
AM2	83XB		0	0	0	1	1	1	2	1	3	1	4
AM3	83XB		0	0	0	4	4	1	5	1	6	4	10
AMAN	83XB		0	0	0	3	3	1	4	1	5	3	8
APOCM	8300		0	0	0	1	1	0	1	0	1	1	2
APOCM	9580		0	0	0	1	1	0	1	0	1	1	2
APOCS			0	0	0	2	2	0	2	0	2	2	4
APOCS	83XB		0	0	0	1	1	0	1	0	1	1	2
APOC			0	0	0	2	2	1	3	1	4	2	6
APO1			0	0	0	6	6	0	6	0	6	6	12
APO1	8301		0	0	0	1	1	0	1	0	1	1	2
APO1	83XA		0	0	0	1	1	1	2	1	3	1	4
APO1	83XB		0	0	0	1	1	0	1	0	1	1	2
APO2			0	0	0	7	7	0	7	0	7	7	14
APO2	83XA		0	0	0	2	2	2	4	2	6	2	8
APO3			0	0	0	1	1	0	1	0	1	1	2
AT1	83XB		0	0	0	2	2	0	2	0	2	2	4
AT1	83XB	83XC	0	0	0	1	1	1	2	1	3	1	4
AT1	83XB	9502	0	0	0	1	1	0	1	0	1	1	2
AT2	83XB		0	0	0	1	1	1	2	1	3	1	4
AT3	83XB		0	0	0	2	2	1	3	1	4	2	6
ATAN	83XB		0	0	0	1	1	1	2	1	3	1	4
AZC			0	0	0	1	1	0	1	0	1	1	2
AZ2			0	0	0	3	3	1	4	1	5	3	8
AZ2	6315		0	0	0	1	1	0	1	0	1	1	2
AZ3			0	0	0	1	1	0	1	0	1	1	2
HM1	8404		1	0	1	0	1	0	1	0	1	1	2
HM3	8404		2	0	2	0	2	0	2	0	2	2	4
IS2			0	0	0	1	1	1	2	1	3	1	4
IT1	2781		0	0	0	1	1	0	1	0	1	1	2
IT3	2735		0	0	0	1	1	0	1	0	1	1	2
NC1			0	0	0	1	1	0	1	0	1	1	2
YNC			0	0	0	1	1	0	1	0	1	1	2
YN1			0	0	0	1	1	0	1	0	1	1	2
YN2			0	0	0	2	2	0	2	0	2	2	4
YN3			0	0	0	1	1	0	1	0	1	1	2
YNSN			0	0	0	4	4	0	4	0	4	4	8
AN			0	0	0	28	28	0	28	0	28	28	56
Fleet Support Billets ACDU and TAR													
AK1			1	0	1	0	1	0	1	0	1	0	1
APO1	83XA		1	0	1	0	1	0	1	0	1	0	1
Staff Billets ACDU and TAR													
AD1			1	0	1	0	1	0	1	0	1	0	1
AE1	83XA	9502	2	0	2	0	2	0	2	0	2	0	2

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS	BILLET BASE	CFY05		FY06		FY07		FY08		FY09	
				+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM
AE1	83XB		0	0	0	1	1	0	1	0	1	0	1
AKC			0	0	0	1	1	0	1	0	1	0	1
AK2			1	0	1	0	1	0	1	0	1	0	1
AM2	83XB		0	0	0	1	1	0	1	0	1	0	1
AMSC	83XB		0	0	0	1	1	0	1	0	1	0	1
ATCS	83XB	9502	1	0	1	0	1	0	1	0	1	0	1
ATC			1	0	1	0	1	0	1	0	1	0	1
ATC	83XA	9502	0	0	0	1	1	0	1	0	1	0	1
AT1	83XA	9502	0	0	0	1	1	0	1	0	1	0	1
AT1	83XB		0	0	0	1	1	0	1	0	1	0	1
AT1	83XB	83XC	0	0	0	1	1	0	1	0	1	0	1
AT1	83XB	9502	1	0	1	0	1	0	1	0	1	0	1
AT2	83XB		0	0	0	1	1	0	1	0	1	0	1
AZ1			1	0	1	0	1	0	1	0	1	0	1
YN1			1	0	1	0	1	0	1	0	1	0	1

Chargeable Student Billets ACUDU and TAR

0	1	1	6	7	-2	5	2	7	3	10
---	---	---	---	---	----	---	---	---	---	----

TOTAL USN ENLISTED BILLETS:

Operational	3	0	3	121	124	23	147	23	170	124	294
Fleet Support	2	0	2	0	2	0	2	0	2	0	2
Staff	9	0	9	9	18	0	18	0	18	0	18
Chargeable Student	0	1	1	6	7	-2	5	2	7	3	10

c. OFFICER - USMC

Operational Billets USMC and AR

CAPT	0202		1	0	1	0	1	0	1	0	1	1	2
CAPT	0402		1	0	1	0	1	0	1	0	1	1	2
CAPT	9969	7315	4	0	4	0	4	0	4	0	4	4	8
CWO2	0170		1	0	1	0	1	0	1	0	1	1	2
CWO2	6302		1	0	1	0	1	0	1	0	1	1	2
LT	0207		1	0	1	0	1	0	1	0	1	1	2
LTCOL	9969	7315	1	0	1	0	1	0	1	0	1	1	2
MAJ	6002		1	0	1	0	1	0	1	0	1	1	2
MAJ	7202	7315	1	0	1	0	1	0	1	0	1	1	2
MAJ	7210	7315	2	0	2	0	2	0	2	0	2	2	4
MAJ	9969	7315	1	0	1	0	1	0	1	0	1	1	2

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS	BILLET BASE	CFY05		FY06		FY07		FY08		FY09	
				+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM
Fleet Support Billets USMC and AR													
MAJ	7200		1	0	1	0	1	0	1	0	1	0	1
Chargeable Student Billets USMC and AR													
			0	1	1	0	1	0	1	0	1	1	2

TOTAL USMC OFFICER BILLETS:

Operational			15	0	15	0	15	0	15	0	15	15	30
Fleet Support			1	0	1	0	1	0	1	0	1	0	1
Chargeable Student			0	1	1	0	1	0	1	0	1	1	2

d. ENLISTED - USMC

Operational Billets USMC and AR

CPL	1142		1	0	1	0	1	0	1	0	1	1	2
CPL	0121		2	0	2	0	2	0	2	0	2	2	4
CPL	0151		1	0	1	0	1	0	1	0	1	1	2
CPL	0231		3	0	3	0	3	0	3	0	3	3	6
CPL	3043		1	0	1	0	1	0	1	0	1	1	2
CPL	3521		4	0	4	0	4	0	4	0	4	4	8
CPL	3531		1	0	1	0	1	0	1	0	1	1	2
CPL	0411		2	0	2	0	2	0	2	0	2	2	4
CPL	6046		3	0	3	0	3	0	3	0	3	3	6
CPL	6072		1	0	1	0	1	0	1	0	1	1	2
CPL	0621		5	0	5	0	5	0	5	0	5	5	10
CPL	6214		5	0	5	0	5	0	5	0	5	5	10
CPL	6314		3	0	3	0	3	0	3	0	3	3	6
CPL	6413		1	0	1	0	1	0	1	0	1	1	2
CPL	6423		1	0	1	0	1	0	1	0	1	1	2
CPL	6466		1	0	1	0	1	0	1	0	1	1	2
CPL	6492		1	0	1	0	1	0	1	0	1	1	2
CPL	6672		1	0	1	0	1	0	1	0	1	1	2
CPL	7314		10	0	10	0	10	0	10	0	10	10	20
CPL	8711		1	0	1	0	1	0	1	0	1	1	2
GYSGT	0193		1	0	1	0	1	0	1	0	1	1	2
GYSGT	0241		1	0	1	0	1	0	1	0	1	1	2
GYSGT	6214		1	0	1	0	1	0	1	0	1	1	2
GYSGT	6314		1	0	1	0	1	0	1	0	1	1	2
GYSGT	0691		1	0	1	0	1	0	1	0	1	1	2
GYSGT	7041		1	0	1	0	1	0	1	0	1	1	2
GYSGT	7314		2	0	2	0	2	0	2	0	2	2	4
LCPL	1141		5	0	5	0	5	0	5	0	5	5	10

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS	BILLET BASE	CFY05		FY06		FY07		FY08		FY09	
				+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM
LCPL	1142		2	0	2	0	2	0	2	0	2	2	4
LCPL	0121		1	0	1	0	1	0	1	0	1	1	2
LCPL	1345		1	0	1	0	1	0	1	0	1	1	2
LCPL	0151		1	0	1	0	1	0	1	0	1	1	2
LCPL	2111		1	0	1	0	1	0	1	0	1	1	2
LCPL	3043		1	0	1	0	1	0	1	0	1	1	2
LCPL	3381		2	0	2	0	2	0	2	0	2	2	4
LCPL	3521		4	0	4	0	4	0	4	0	4	4	8
LCPL	3531		1	0	1	0	1	0	1	0	1	1	2
LCPL	4066		2	0	2	0	2	0	2	0	2	2	4
LCPL	0411		1	0	1	0	1	0	1	0	1	1	2
LCPL	6072		1	0	1	0	1	0	1	0	1	1	2
LCPL	6073		1	0	1	0	1	0	1	0	1	1	2
LCPL	0612		2	0	2	0	2	0	2	0	2	2	4
LCPL	0621		12	0	12	0	12	0	12	0	12	12	24
LCPL	6214		11	0	11	0	11	0	11	0	11	11	22
LCPL	6314		10	0	10	0	10	0	10	0	10	10	20
LCPL	6432		1	0	1	0	1	0	1	0	1	1	2
LCPL	6672		1	0	1	0	1	0	1	0	1	1	2
LCPL	7314		20	0	20	0	20	0	20	0	20	20	40
MSGT	6019		1	0	1	0	1	0	1	0	1	1	2
MSGT	7314		1	0	1	0	1	0	1	0	1	1	2
SGT	0241		3	0	3	0	3	0	3	0	3	3	6
SGT	3043		1	0	1	0	1	0	1	0	1	1	2
SGT	3521		1	0	1	0	1	0	1	0	1	1	2
SGT	3531		3	0	3	0	3	0	3	0	3	3	6
SGT	0431		1	0	1	0	1	0	1	0	1	1	2
SGT	6042		1	0	1	0	1	0	1	0	1	1	2
SGT	6073		1	0	1	0	1	0	1	0	1	1	2
SGT	0621		2	0	2	0	2	0	2	0	2	2	4
SGT	6214		3	0	3	0	3	0	3	0	3	3	6
SGT	6314		2	0	2	0	2	0	2	0	2	2	4
SGT	6466		1	0	1	0	1	0	1	0	1	1	2
SGT	6672		1	0	1	0	1	0	1	0	1	1	2
SGT	7041		1	0	1	0	1	0	1	0	1	1	2
SGT	7314		3	0	3	0	3	0	3	0	3	3	6
SGTMAJ	9999		1	0	1	0	1	0	1	0	1	1	2
SSGT	0231		1	0	1	0	1	0	1	0	1	1	2
SSGT	0241		1	0	1	0	1	0	1	0	1	1	2
SSGT	2861		1	0	1	0	1	0	1	0	1	1	2
SSGT	3529		1	0	1	0	1	0	1	0	1	1	2
SSGT	3537		1	0	1	0	1	0	1	0	1	1	2
SSGT	0431		2	0	2	0	2	0	2	0	2	2	4
SSGT	6046		2	0	2	0	2	0	2	0	2	2	4
SSGT	6214		2	0	2	0	2	0	2	0	2	2	4
SSGT	0629		1	0	1	0	1	0	1	0	1	1	2
SSGT	6314		1	0	1	0	1	0	1	0	1	1	2
SSGT	7314		2	0	2	0	2	0	2	0	2	2	4

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS	BILLET BASE	CFY05		FY06		FY07		FY08		FY09	
				+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM
SSGT	8421		1	0	1	0	1	0	1	0	1	1	2
Fleet Support Billets USMC and AR													
GYSGT	7314		1	0	1	0	1	0	1	0	1	0	1
SGT	6214		1	0	1	0	1	0	1	0	1	0	1
SGT	6314		1	0	1	0	1	0	1	0	1	0	1
SGT	7314		1	0	1	0	1	0	1	0	1	0	1
Staff Billets USMC and AR													
CPL	6214		0	0	0	1	1	0	1	0	1	0	1
CPL	6314		0	0	0	1	1	0	1	0	1	0	1
GYSGT	6214		1	0	1	0	1	0	1	0	1	0	1
SGT	6214		1	0	1	0	1	0	1	0	1	0	1
SGT	6314		0	0	0	1	1	0	1	0	1	0	1
SGT	7314		2	0	2	2	4	0	4	0	4	0	4
SSGT	6314		0	0	0	1	1	0	1	0	1	0	1
SSGT	7314		0	0	0	2	2	0	2	0	2	0	2
Chargeable Student Billets USMC and AR													
			0	3	3	1	4	0	4	2	6	8	14
TOTAL USMC ENLISTED BILLETS:													
Operational			180	0	180	0	180	0	180	0	180	180	360
Fleet Support			4	0	4	0	4	0	4	0	4	0	4
Staff			4	0	4	8	12	0	12	0	12	0	12
Chargeable Student			0	3	3	1	4	0	4	2	6	8	14

II.B. PERSONNEL REQUIREMENTS

II.B.1. ANNUAL TRAINING INPUT REQUIREMENTS

CIN, COURSE TITLE: C-2E-XXXX, VTUAV Mission Commander

COURSE LENGTH: 3.0 Weeks

NAVY TOUR LENGTH: 36 Months

ATTRITION FACTOR: Navy: 0% USMC: 0%

BACKOUT FACTOR: 0.06

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY05		FY06		FY07		FY08		FY09	
			OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
MTU XXXX NAMTRAGRU DET Whiting Field												
	NAVY	ACDU	1		10		6		8		15	
	USMC	USMC	2		2		2		3		11	
		TOTAL:	3		12		8		11		26	

CIN, COURSE TITLE: C-104-XXXX, VTUAV Air Vehicle Operator

COURSE LENGTH: 8.0 Weeks

NAVY TOUR LENGTH: 36 Months

ATTRITION FACTOR: Navy: 0% USMC: 0%

BACKOUT FACTOR: 0.16

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY05		FY06		FY07		FY08		FY09	
			OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
MTU XXXX NAMTRAGRU DET Whiting Field												
	NAVY	ACDU	2	1	9	5	6	5	9	6	14	7
	USMC	USMC	2	11	2	14	2	12	3	18	10	45
		TOTAL:	4	12	11	19	8	17	12	24	24	52

CIN, COURSE TITLE: C-690-XXXX, VTUAV Systems Electronics Technician

COURSE LENGTH: 8.0 Weeks

NAVY TOUR LENGTH: 36 Months

ATTRITION FACTOR: Navy: 0% USMC: 0%

BACKOUT FACTOR: 0.16

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY05		FY06		FY07		FY08		FY09	
			OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
MTU XXXX NAMTRAGRU DET Whiting Field												
	NAVY	ACDU			3	18		15		19		26
	USMC	USMC			4	7		5		8		20
		TOTAL:			7	25		20		27		46

CIN, COURSE TITLE: C-690-XXXB, VTUAV Mechanical Technician

COURSE LENGTH: 8.0 Weeks

NAVY TOUR LENGTH: 36 Months

ATTRITION FACTOR: Navy: 0% USMC: 0%

BACKOUT FACTOR: 0.16

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY05		FY06		FY07		FY08		FY09	
			OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
MTU XXXX NAMTRAGRU DET Whiting Field												
	NAVY	ACDU			4	24		18		24		36
	USMC	USMC			7	7		7		11		26
		TOTAL:			11	31		25		35		62

II.B.1. ANNUAL TRAINING INPUT REQUIREMENTS

CIN, COURSE TITLE: C-XXX-XXXX, VTUAV Systems Administrator

COURSE LENGTH: 1.0 Weeks

NAVY TOUR LENGTH: 36 Months

ATTRITION FACTOR: Navy: 0% USMC: 0%

BACKOUT FACTOR: 0.00

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY05		FY06		FY07		FY08		FY09	
			OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
MTU XXXX	NAMTRAGR	DET Whiting Field										
	NAVY	ACDU		0		2		1		1		1
		TOTAL:		0		2		1		1		1

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS	BILLET BASE	CFY05		FY06		FY07		FY08		FY09	
				+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM
LCPL	1142		2	0	2	0	2	0	2	0	2	2	4
LCPL	0121		1	0	1	0	1	0	1	0	1	1	2
LCPL	1345		1	0	1	0	1	0	1	0	1	1	2
LCPL	0151		1	0	1	0	1	0	1	0	1	1	2
LCPL	2111		1	0	1	0	1	0	1	0	1	1	2
LCPL	3043		1	0	1	0	1	0	1	0	1	1	2
LCPL	3381		2	0	2	0	2	0	2	0	2	2	4
LCPL	3521		4	0	4	0	4	0	4	0	4	4	8
LCPL	3531		1	0	1	0	1	0	1	0	1	1	2
LCPL	4066		2	0	2	0	2	0	2	0	2	2	4
LCPL	0411		1	0	1	0	1	0	1	0	1	1	2
LCPL	6072		1	0	1	0	1	0	1	0	1	1	2
LCPL	6073		1	0	1	0	1	0	1	0	1	1	2
LCPL	0612		2	0	2	0	2	0	2	0	2	2	4
LCPL	0621		12	0	12	0	12	0	12	0	12	12	24
LCPL	6214		11	0	11	0	11	0	11	0	11	11	22
LCPL	6314		10	0	10	0	10	0	10	0	10	10	20
LCPL	6432		1	0	1	0	1	0	1	0	1	1	2
LCPL	6672		1	0	1	0	1	0	1	0	1	1	2
LCPL	7314		20	0	20	0	20	0	20	0	20	20	40
MSGT	6019		1	0	1	0	1	0	1	0	1	1	2
MSGT	7314		1	0	1	0	1	0	1	0	1	1	2
SGT	0241		3	0	3	0	3	0	3	0	3	3	6
SGT	3043		1	0	1	0	1	0	1	0	1	1	2
SGT	3521		1	0	1	0	1	0	1	0	1	1	2
SGT	3531		3	0	3	0	3	0	3	0	3	3	6
SGT	0431		1	0	1	0	1	0	1	0	1	1	2
SGT	6042		1	0	1	0	1	0	1	0	1	1	2
SGT	6073		1	0	1	0	1	0	1	0	1	1	2
SGT	0621		2	0	2	0	2	0	2	0	2	2	4
SGT	6214		3	0	3	0	3	0	3	0	3	3	6
SGT	6314		2	0	2	0	2	0	2	0	2	2	4
SGT	6466		1	0	1	0	1	0	1	0	1	1	2
SGT	6672		1	0	1	0	1	0	1	0	1	1	2
SGT	7041		1	0	1	0	1	0	1	0	1	1	2
SGT	7314		3	0	3	0	3	0	3	0	3	3	6
SGTMAJ	9999		1	0	1	0	1	0	1	0	1	1	2
SSGT	0231		1	0	1	0	1	0	1	0	1	1	2
SSGT	0241		1	0	1	0	1	0	1	0	1	1	2
SSGT	2861		1	0	1	0	1	0	1	0	1	1	2
SSGT	3529		1	0	1	0	1	0	1	0	1	1	2
SSGT	3537		1	0	1	0	1	0	1	0	1	1	2
SSGT	0431		2	0	2	0	2	0	2	0	2	2	4
SSGT	6046		2	0	2	0	2	0	2	0	2	2	4
SSGT	6214		2	0	2	0	2	0	2	0	2	2	4
SSGT	0629		1	0	1	0	1	0	1	0	1	1	2
SSGT	6314		1	0	1	0	1	0	1	0	1	1	2
SSGT	7314		2	0	2	0	2	0	2	0	2	2	4

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS	BILLET BASE	CFY05		FY06		FY07		FY08		FY09	
				+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM	+/-	CUM
SSGT	8421		1	0	1	0	1	0	1	0	1	1	2
Fleet Support Billets USMC and AR													
GYSGT	7314		1	0	1	0	1	0	1	0	1	0	1
SGT	6214		1	0	1	0	1	0	1	0	1	0	1
SGT	6314		1	0	1	0	1	0	1	0	1	0	1
SGT	7314		1	0	1	0	1	0	1	0	1	0	1
Staff Billets USMC and AR													
CPL	6214		0	0	0	1	1	0	1	0	1	0	1
CPL	6314		0	0	0	1	1	0	1	0	1	0	1
GYSGT	6214		1	0	1	0	1	0	1	0	1	0	1
SGT	6214		1	0	1	0	1	0	1	0	1	0	1
SGT	6314		0	0	0	1	1	0	1	0	1	0	1
SGT	7314		2	0	2	2	4	0	4	0	4	0	4
SSGT	6314		0	0	0	1	1	0	1	0	1	0	1
SSGT	7314		0	0	0	2	2	0	2	0	2	0	2
Chargeable Student Billets USMC and AR													
			0	3	3	1	4	0	4	2	6	8	14
TOTAL USMC ENLISTED BILLETS:													
Operational			180	0	180	0	180	0	180	0	180	180	360
Fleet Support			4	0	4	0	4	0	4	0	4	0	4
Staff			4	0	4	8	12	0	12	0	12	0	12
Chargeable Student			0	3	3	1	4	0	4	2	6	8	14

II.B. PERSONNEL REQUIREMENTS

II.B.1. ANNUAL TRAINING INPUT REQUIREMENTS

CIN, COURSE TITLE: C-2E-XXXA, VTUAV Mission Commander

COURSE LENGTH: 3.0 Weeks

NAVY TOUR LENGTH: 36 Months

ATTRITION FACTOR: Navy: 0% USMC: 0%

BACKOUT FACTOR: 0.06

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY05		FY06		FY07		FY08		FY09	
			OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
MTU XXXX NAMTRAGRU DET Whiting Field												
	NAVY	ACDU	1		10		6		8		15	
	USMC	USMC	2		2		2		3		11	
		TOTAL:	3		12		8		11		26	

CIN, COURSE TITLE: C-104-XXXA, VTUAV Air Vehicle Operator

COURSE LENGTH: 8.0 Weeks

NAVY TOUR LENGTH: 36 Months

ATTRITION FACTOR: Navy: 0% USMC: 0%

BACKOUT FACTOR: 0.16

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY05		FY06		FY07		FY08		FY09	
			OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
MTU XXXX NAMTRAGRU DET Whiting Field												
	NAVY	ACDU	2	1	9	5	6	5	9	6	14	7
	USMC	USMC	2	11	2	14	2	12	3	18	10	45
		TOTAL:	4	12	11	19	8	17	12	24	24	52

CIN, COURSE TITLE: C-690-XXXA, VTUAV Systems Electronics Technician

COURSE LENGTH: 8.0 Weeks

NAVY TOUR LENGTH: 36 Months

ATTRITION FACTOR: Navy: 0% USMC: 0%

BACKOUT FACTOR: 0.16

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY05		FY06		FY07		FY08		FY09	
			OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
MTU XXXX NAMTRAGRU DET Whiting Field												
	NAVY	ACDU		3	18		15		19		26	
	USMC	USMC		4	7		5		8		20	
		TOTAL:		7	25		20		27		46	

CIN, COURSE TITLE: C-690-XXXB, VTUAV Mechanical Technician

COURSE LENGTH: 8.0 Weeks

NAVY TOUR LENGTH: 36 Months

ATTRITION FACTOR: Navy: 0% USMC: 0%

BACKOUT FACTOR: 0.16

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY05		FY06		FY07		FY08		FY09	
			OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
MTU XXXX NAMTRAGRU DET Whiting Field												
	NAVY	ACDU		4	24		18		24		36	
	USMC	USMC		7	7		7		11		26	
		TOTAL:		11	31		25		35		62	

II.B.1. ANNUAL TRAINING INPUT REQUIREMENTS

CIN, COURSE TITLE: C-XXX-XXXX, VTUAV Systems Administrator

COURSE LENGTH: 1.0 Weeks

NAVY TOUR LENGTH: 36 Months

ATTRITION FACTOR: Navy: 0% USMC: 0%

BACKOUT FACTOR: 0.00

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY05		FY06		FY07		FY08		FY09	
			OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
MTU XXXX	NAMTRAGRU	DET Whiting Field										
	NAVY	ACDU		0		2		1		1		1
		TOTAL:		0		2		1		1		1

PART III - TRAINING REQUIREMENTS

The following elements are not affected by the VTUAV and, therefore, are not included in Part III of this NTSP:

III.A.2. Follow-on Training

III.A.2.a. Existing Courses

III.A.2.c. Unique Courses

PART III - TRAINING REQUIREMENTS

III.A.1. INITIAL TRAINING REQUIREMENTS

COURSE TITLE: VTUAV System Familiarization
COURSE DEVELOPER: NGR
COURSE INSTRUCTOR: NGR
COURSE LENGTH: 3 Days
ACTIVITY DESTINATIONS: DT Flight Test Personnel
 Shipboard DT Personnel

LOCATION, UIC TBD, 00000	BEGIN DATE Aug 01	STUDENTS OFF ENL CIV	Input AOB Chargeable
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ACTIVITY DESTINATIONS: DT Shipboard Test Personnel

LOCATION, UIC TBD, 00000	BEGIN DATE May 02	STUDENTS OFF ENL CIV	Input AOB Chargeable
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Note: There are 25 seats per course per class available for selected Government and support contractor personnel for DT.

III.A.1. INITIAL TRAINING REQUIREMENTS

COURSE TITLE: VTUAV Mission Commander
COURSE DEVELOPER: NGR
COURSE INSTRUCTOR: NGR
COURSE LENGTH: 10 Days
ACTIVITY DESTINATIONS: OT Personnel

LOCATION, UIC TBD, 00000	BEGIN DATE Aug 02	STUDENTS OFF ENL CIV	
			Input AOB Chargeable

ACTIVITY DESTINATIONS: OT Personnel

LOCATION, UIC Twentynine Palms (System 1), 01480	BEGIN DATE Oct 02	STUDENTS OFF ENL CIV	
			Input AOB Chargeable

ACTIVITY DESTINATIONS: VMU-1 (Site Activation)

LOCATION, UIC Twentynine Palms (System 2), 01480	BEGIN DATE Oct 03	STUDENTS OFF ENL CIV	
		3 0.1	Input AOB Chargeable

ACTIVITY DESTINATIONS: Instructor Cadre

LOCATION, UIC MTU XXXX NAMTRAGRU DET Whiting Field (System 3), 31714	BEGIN DATE Oct 04	STUDENTS OFF ENL CIV	
		1 .	1 Input AOB Chargeable

ACTIVITY DESTINATIONS: VU-1 (Site Activation)

LOCATION, UIC TBD (System 4), 00000	BEGIN DATE Oct 05	STUDENTS OFF ENL CIV	
		7 0.2	Input AOB Chargeable

Note: There are 12 seats per course per class for OT personnel. Courses that show specific numbers of students are those required to stand up one system at site activation.

III.A.1. INITIAL TRAINING REQUIREMENTS

COURSE TITLE: VTUAV Pilot
COURSE DEVELOPER: NGR
COURSE INSTRUCTOR: NGR
COURSE LENGTH: 33 Days
ACTIVITY DESTINATIONS: OT Personnel

LOCATION, UIC TBD, 00000	BEGIN DATE Aug 02	STUDENTS OFF	STUDENTS ENL	CIV	Input AOB Chargeable
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ACTIVITY DESTINATIONS: OT Personnel

LOCATION, UIC Twentynine Palms (System 1), 01480	BEGIN DATE Oct 02	STUDENTS OFF	STUDENTS ENL	CIV	Input AOB Chargeable
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ACTIVITY DESTINATIONS: VMU-1 (Site Activation)

LOCATION, UIC Twentynine Palms (System 2), 01480	BEGIN DATE Oct 03	STUDENTS OFF 3 0.3	STUDENTS ENL 7 0.6	CIV	Input AOB Chargeable
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ACTIVITY DESTINATIONS: Instructor Cadre

LOCATION, UIC MTU XXXX NAMTRAGRU DET Whiting Field (System 3), 31714	BEGIN DATE Oct 04	STUDENTS OFF 1 0.1	STUDENTS ENL 2 0.2	CIV	Input AOB Chargeable
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ACTIVITY DESTINATIONS: VU-1 (Site Activation)

LOCATION, UIC TBD (System 4), 00000	BEGIN DATE Oct 05	STUDENTS OFF 6 0.5	STUDENTS ENL 6 0.5	CIV	Input AOB Chargeable
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Note: There are 12 seats per course per class for OT personnel. Courses that show specific numbers of students are those required to stand up one system at site activation.

III.A.1. INITIAL TRAINING REQUIREMENTS

COURSE TITLE: VTUAV Payload Operator
COURSE DEVELOPER: NGR
COURSE INSTRUCTOR: NGR
COURSE LENGTH: 10 Days
ACTIVITY DESTINATIONS: OT Personnel

LOCATION, UIC TBD, 00000	BEGIN DATE Aug 02	STUDENTS OFF	STUDENTS ENL	CIV	Input AOB Chargeable
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ACTIVITY DESTINATIONS: OT Personnel

LOCATION, UIC Twentynine Palms (System 1), 01480	BEGIN DATE Oct 02	STUDENTS OFF	STUDENTS ENL	CIV	Input AOB Chargeable
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ACTIVITY DESTINATIONS: VMU-1 site activation

LOCATION, UIC Twentynine Palms (System 2), 01480	BEGIN DATE Oct 03	STUDENTS OFF	STUDENTS ENL 12 0.3	CIV	Input AOB Chargeable
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ACTIVITY DESTINATIONS: Instructor Cadre

LOCATION, UIC MTU XXXX NAMTRAGRU DET Whiting Field (System 3), 31714	BEGIN DATE Oct 04	STUDENTS OFF	STUDENTS ENL 2 0.1	CIV	Input AOB Chargeable
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ACTIVITY DESTINATIONS: VU-1 Site Activation

LOCATION, UIC TBD (System 4), 00000	BEGIN DATE Oct 05	STUDENTS OFF	STUDENTS ENL 3 0.1	CIV	Input AOB Chargeable
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Note: There are 12 seats per course per class for OT personnel. Courses that show specific numbers of students are those required to stand up one system at site activation.

III.A.1. INITIAL TRAINING REQUIREMENTS

COURSE TITLE: VTUAV Electronics Maintainer
COURSE DEVELOPER: NGR
COURSE INSTRUCTOR: NGR
COURSE LENGTH: 33 Days
ACTIVITY DESTINATIONS: OT Personnel

LOCATION, UIC TBD, 00000	BEGIN DATE Aug 02	STUDENTS OFF ENL CIV	Input AOB Chargeable
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ACTIVITY DESTINATIONS: OT Personnel

LOCATION, UIC Twentynine Palms (System 1), 01480	BEGIN DATE Oct 02	STUDENTS OFF ENL CIV	Input AOB Chargeable
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ACTIVITY DESTINATIONS: VMU-1 (Site Activation)

LOCATION, UIC Twentynine Palms (System 2), 01480	BEGIN DATE Oct 03	STUDENTS OFF ENL CIV	Input AOB Chargeable
			7 0.6

ACTIVITY DESTINATIONS: Instructor Cadre

LOCATION, UIC MTU XXXX NAMTRAGRU DET Whiting Field (System 3), 31174	BEGIN DATE Oct 04	STUDENTS OFF ENL CIV	Input AOB Chargeable
			2 0.2

ACTIVITY DESTINATIONS: VU-1 (Site Activation)

LOCATION, UIC TBD (System 4), 00000	BEGIN DATE Oct 05	STUDENTS OFF ENL CIV	Input AOB Chargeable
			8 0.7

Note: There are 12 seats per course per class for OT personnel. Courses that show specific numbers of students are those required to stand up one system at site activation.

III.A.1. INITIAL TRAINING REQUIREMENTS

COURSE TITLE: VTUAV Mechanical Maintainer
COURSE DEVELOPER: NGR
COURSE INSTRUCTOR: NGR
COURSE LENGTH: 40 Days
ACTIVITY DESTINATIONS: OT personnel

LOCATION, UIC TBD, 00000	BEGIN DATE Aug 02	STUDENTS OFF ENL CIV	Input AOB Chargeable
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ACTIVITY DESTINATIONS: OT Personnel

LOCATION, UIC Twentynine Palms (System 1), 01480	BEGIN DATE Oct 02	STUDENTS OFF ENL CIV	Input AOB Chargeable
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ACTIVITY DESTINATIONS: VMU-1 (Site Activation)

LOCATION, UIC Twentynine Palms (System 2), 01480	BEGIN DATE Oct 03	STUDENTS OFF ENL CIV	Input AOB Chargeable
			8 0.9

ACTIVITY DESTINATIONS: Instructor Cadre

LOCATION, UIC MTU XXXX NAMTRAGRU DET Whiting Field (System 3), 31714	BEGIN DATE Oct 04	STUDENTS OFF ENL CIV	Input AOB Chargeable
			2 0.2

ACTIVITY DESTINATIONS: VU-1 (Site Activation)

LOCATION, UIC TBD (System 4), 00000	BEGIN DATE Oct 05	STUDENTS OFF ENL CIV	Input AOB Chargeable
			9 1.0

Note: There are 12 seats per course per class for OT personnel. Courses that show specific numbers of students are those required to stand up one system at site activation.

III.A.2.b. PLANNED COURSES

CIN, COURSE TITLE: C-2E-XXXX, VTUAV Mission Commander
TRAINING ACTIVITY: MTU XXXX NAMTRAGRU DET
LOCATION, UIC: NAS Whiting Field, 31714

SOURCE: NAVY **STUDENT CATEGORY:** ACDU - TAR

CFY05		FY06		FY07		FY08		FY09		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
1		10		6		8		15		ATIR
1		10		6		8		15		Output
0.1		0.5		0.4		0.6		0.9		AOB
0.1		0.5		0.4		0.6		0.9		Chargeable

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY05		FY06		FY07		FY08		FY09		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
2		2		2		3		11		ATIR
2		2		2		3		11		Output
0.1		0.1		0.1		0.2		0.6		AOB
0.1		0.1		0.1		0.2		0.6		Chargeable

CIN, COURSE TITLE: C-104-XXXX, VTUAV Air Vehicle Operator
TRAINING ACTIVITY: MTU XXXX NAMTRAGRU DET
LOCATION, UIC: NAS Whiting Field, 31714

SOURCE: NAVY **STUDENT CATEGORY:** ACDU - TAR

CFY05		FY06		FY07		FY08		FY09		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
2	1	9	5	6	5	9	6	14	7	ATIR
2	1	9	5	6	5	9	6	14	7	Output
0.3	0.1	1.3	0.7	0.8	0.6	1.2	0.7	1.9	0.8	AOB
0.3	0.1	1.3	0.7	0.8	0.6	1.2	0.7	1.9	0.8	Chargeable

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY05		FY06		FY07		FY08		FY09		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
2	11	2	14	2	12	3	18	10	45	ATIR
2	11	2	14	2	12	3	18	10	45	Output
0.3	1.6	0.3	2.1	0.3	1.8	0.4	2.7	1.5	6.7	AOB
0.3	1.6	0.3	2.1	0.3	1.8	0.4	2.7	1.5	6.7	Chargeable

Note: "Air Vehicle Operator" is the term used for Navy personnel who are dual qualified as both Pilot and Payload Operator. For the Marine Corps, this also includes qualified as Remote Data Terminal Operator.

III.A.2.b. PLANNED COURSES

CIN, COURSE TITLE: C-690-XXXX, VTUAV Systems Electronics Technician
TRAINING ACTIVITY: MTU XXXX NAMTRAGRU DET
LOCATION, UIC: NAS Whiting Field, 31714

SOURCE: NAVY **STUDENT CATEGORY:** ACDU - TAR

CFY05		FY06		FY07		FY08		FY09		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	3		18		15		19		26	ATIR
	3		18		15		19		26	Output
	0.4		2.6		2.1		2.7		3.7	AOB
	0.4		2.6		2.1		2.7		3.7	Chargeable

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY05		FY06		FY07		FY08		FY09		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	4		7		5		8		20	ATIR
	4		7		5		8		20	Output
	0.6		1.0		0.7		1.1		2.9	AOB
	0.6		1.0		0.7		1.1		2.9	Chargeable

CIN, COURSE TITLE: C-690-XXXB, VTUAV Mechanical Technician
TRAINING ACTIVITY: MTU XXXX NAMTRAGRU DET
LOCATION, UIC: NAS Whiting Field, 31714

SOURCE: NAVY **STUDENT CATEGORY:** ACDU - TAR

CFY05		FY06		FY07		FY08		FY09		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	4		24		18		24		36	ATIR
	4		24		18		24		36	Output
	0.6		3.5		2.6		3.5		5.2	AOB
	0.6		3.5		2.6		3.5		5.2	Chargeable

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY05		FY06		FY07		FY08		FY09		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	7		7		7		11		26	ATIR
	7		7		7		11		26	Output
	1.0		1.0		1.0		1.6		3.8	AOB
	1.0		1.0		1.0		1.6		3.8	Chargeable

III.A.2.b. PLANNED COURSES

CIN, COURSE TITLE: C-XXX-XXXX, VTUAV Systems Administrator

TRAINING ACTIVITY: MTU XXXX NAMTRAGRU DET

LOCATION, UIC: NAS Whiting Field, 31714

SOURCE: NAVY

STUDENT CATEGORY: ACDU - TAR

CFY05		FY06		FY07		FY08		FY09		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	0		2		1		1		1	ATIR
	0		2		1		1		1	Output
	0.0		0.0		0.0		0.0		0.0	AOB
	0.0		0.0		0.0		0.0		0.0	Chargeable

III.A.3. EXISTING TRAINING PHASED OUT

Note: The date for phase-out of Pioneer System training is undetermined at this time. As the Pioneer Systems phase out, training will be phased out. Phase-out information will be included in future updates to this NTSP.

PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS

The following elements are not affected by the VTUAV, and, therefore, are not included in Part IV of this NTSP:

IV.C. Facility Requirements

IV.C.2. Facility Requirements Detailed by Activity and Course

IV.C.3. Facility Project Summary by Program

PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS

IV.A. TRAINING HARDWARE

IV.A.1. TTE / GPTE / SPTE / ST / GPETE / SPETE

Note: Requirements for TTE, etc., have not yet been verified. When this information becomes available, it will be included in updates to this document.

IV.A.2. TRAINING DEVICES

Note: Specific requirements for Training Devices have not been determined. When available this information will be included in updates to this document.

IV.B. COURSEWARE REQUIREMENTS

IV.B.1. TRAINING SERVICES

COURSE / TYPE OF TRAINING	SCHOOL LOCATION, UIC	NO. OF PERSONNEL	MAN WEEKS REQUIRED	DATE BEGIN
VTUAV System Familiarization	TBD, 00000	1	0.6	Aug 01
VTUAV System Familiarization	TBD, 00000	1	0.6	Aug 02
VTUAV Mission Commander	TBD, 00000	2	3.2	Aug 02
VTUAV Mission Commander	Twentynine Palms (System 1), 01480	2	3.2	Oct 02
VTUAV Mission Commander	Twentynine Palms (System 2), 01480	1	1.6	Oct 03
VTUAV Mission Commander	MTU XXXX NAMTRAGRU DET Whiting Field (System 3), 31714	2	3.2	Oct 04
VTUAV Mission Commander	TBD (System 4), 00000	2	3.2	Oct 05
VTUAV Pilot	TBD, 00000	2	20.0	Aug 02
VTUAV Pilot	Twentynine Palms (System 1), 01480	2	20.0	Oct 02
VTUAV Pilot	Twentynine Palms (System 2), 01480	2	10.0	Oct 03
VTUAV Pilot	MTU XXXX NAMTRAGRU DET Whiting Field (System 3), 31714	2	10.0	Oct 04
VTUAV Pilot	TBD (System 4), 00000	2	10.0	Oct 05
VTUAV Payload Operator	TBD, 00000	1	1.6	Aug 02
VTUAV Payload Operator	Twentynine Palms (System 1), 01480	1	1.6	Oct 02
VTUAV Payload Operator	Twentynine Palms (System 2), 01480	1	1.6	Oct 03
VTUAV Payload Operator	MTU XXXX NAMTRAGRU DET Whiting Field (System 3), 31714	1	1.6	Oct 04
VTUAV Payload Operator	TBD (system 4), 00000	1	1.6	Oct 05
VTUAV Electronics Maintainer	TBD, 00000	2	10.0	Aug 02
VTUAV Electronics Maintainer	Twentynine Palms (System 1), 01480	2	10.0	Oct 02
VTUAV Electronics Maintainer	Twentynine Palms (System 2), 01480	2	10.0	Oct 03
VTUAV Electronics Maintainer	MTU XXXX NAMTRAGRU DET Whiting Field (System 3), 31714	2	10.0	Oct 04
VTUAV Electronics Maintainer	TBD (System 4), 00000	2	10.0	Oct 05
VTUAV Mechanical Maintainer	TBD, 00000	2	12.0	Aug 02
VTUAV Mechanical Maintainer	Twentynine Palms (System 1), 01480	2	12.0	Oct 02

VTUAV Mechanical Maintainer	Twentynine Palms (System 2), 01480	2	12.0	Oct 03
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IV.B.1. TRAINING SERVICES

COURSE / TYPE OF TRAINING	SCHOOL LOCATION, UIC	NO. OF PERSONNEL	MAN WEEKS REQUIRED	DATE BEGIN
VTUAV Mechanical Maintainer	MTU XXXX NAMTRAGRU DET Whiting Field (System 3), 31714	2	12.0	Oct 04
VTUAV Mechanical Maintainer	TBD (System 4), 00000	2	12.0	Oct 05

IV.B.2. CURRICULA MATERIALS AND TRAINING AIDS

Note: Basic requirements will be for Instructor Manuals and Guides, Student Guides, and other Training Materials. Specific requirements are not known at this time, but will be included in updates to this document when the information becomes available.

IV.B.3. TECHNICAL MANUALS

Note: Specific Technical Manual requirements have not been determined. It is expected that the minimum requirement will include Maintenance Instruction Manuals (MIMs), Illustrated Parts Breakdown (IPB), and Operator Manuals. Complete requirements will be included in updates to this document when they become available.

IV.C. FACILITY REQUIREMENTS

IV.C.1. FACILITY REQUIREMENTS SUMMARY (SPACE / SUPPORT) BY ACTIVITY

Note: With minor refurbishment, Building 2945, NAS Whiting Field, Florida, will be used by MTU XXXX as the VTUAV Training and Administration Facility. There is no MILCON connected with the use of this building. Building 1454 will be used for maintenance training and as a hangar facility.

PART V - MPT MILESTONES

COG CODE	MPT MILESTONES	DATE	STATUS
OPO	Program Manpower and Training Resource Requirements	FY01	Complete
TSA	Brief Program Office	Mar 01	Complete
TSA	Develop Draft NTSP	Mar 01	Complete
TSA	Brief OPNAV	Apr 01	Pending
TSA	Distribute for Fleet Review	Apr 01	Pending
OPO	NTSP Review Comments Due Prior to NTSP Conference	Jun 01	Pending
OPO	Chair NTSP Conference, Issue Minutes and Action Items	Aug 01	Pending
OPTEVFOR	Begin OPEVAL	Apr 02	Pending
TSA	Begin Initial Training	TBD	Pending
TSA	Begin Follow-On Training	TBD	Pending
TSA	Begin Training Effectiveness Evaluation (TEE)	TBD	Pending
TSA	Begin Training Services	TBD	Pending
TSA	Deliver Curricula Materials	Feb 04	Pending
TSA	Establish Training Effectiveness Evaluation Plan (TEEP)	TBD	Pending
TSA	Deliver Training Devices	FY05	Pending
TSA	Deliver TTE	FY05	Pending
TSA	Install TTE	FY05	Pending

PART VI - DECISION ITEMS/ACTION REQUIRED

DECISION ITEM OR ACTION REQUIRED	COMMAND ACTION	DUE DATE	STATUS
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No action items or decisions pending at this time.

PART VII - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
<p>CAPT Rand LeBouvier Head Aviation Systems Branch CNO, N754 lebouvier.rand@hq.navy.mil</p>	<p>COMM: (703) 692-4538 DSN: 222-4538 FAX: (703) 692-4545</p>
<p>CAPT Owen Fletcher Deputy Aviation Maintenance Programs CNO, N781B fletcher.owen@hq.navy.mil</p>	<p>COMM: (703) 604-7747 DSN: 664-7747 FAX: (703) 604-6972</p>
<p>MAJ Vince Amato UAV Requirements Officer CNO, N754D amato.vincent@hq.navy.mil</p>	<p>COMM: (703) 692-4581 DSN: 222-4581 FAX: (703) 692-4545</p>
<p>CDR Joe Shaw OPNAV Resource Sponsor CNO, N769T2 shaw.joe@hq.navy.mil</p>	<p>COMM: (703) 604-7635 DSN: 664-7635 FAX: (703) 604-6934</p>
<p>CAPT Terry Merritt Head, Aviation Technical Training Branch CNO, N789H merritt.terry@hq.navy.mil</p>	<p>COMM: (703) 604-7730 DSN: 664-7730 FAX: (703) 604-6939</p>
<p>AZCS Gary Greenlee NTSP Manager CNO, N789H1A greenlee.gary@hq.navy.mil</p>	<p>COMM: (703) 604-7743 DSN: 664-7743 FAX: (703) 604-6939</p>
<p>Mr. Robert Zweibel Training Technology Policy CNO, N795K zweibel.robert@hq.navy.mil</p>	<p>COMM: (703) 614-1344 DSN: 224-1344 FAX: (703) 695-5698</p>
<p>LCDR Kevin Neary Aviation Manpower CNO, N122C1 n122c1@bupers.navy.mil</p>	<p>COMM: (703) 695-3247 DSN: 225-3247 FAX: (703) 614-5308</p>
<p>LTCOL Damian Lott Functional Mission Sponsor CMC, HQMC APW-81 lottdx@hqmc.usmc.mil</p>	<p>COMM: (703) 614-1729 DSN: 224-1729 FAX: (703) 614-2318</p>
<p>COL Dennis Bartels Branch Head, USMC Aviation Manpower Management CMC, ASM-1 bartelsd@hqmc.usmc.mil</p>	<p>COMM: (703) 614-1244 DSN: 224-1244 FAX: (703) 614-1309</p>

PART VII - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
<p>LTCOL J. Thorton Avionics Officer, Department of Aviation CMC, ASL-34 thortonj@hqmc.usmc.mil</p>	<p>COMM: (703) 614-1133 DSN: 224-1133 FAX: (703) 697-7343</p>
<p>CAPT Lynden Whitmer UAV Program Manager NAVAIRSYSCOM, PMA263 whitmerld@navair.navy.mil</p>	<p>COMM: (301) 757-5842 DSN: 757-5842 FAX: (301) 757-5840</p>
<p>Mr. Mark Eagles UAV Assistant Program Manager, Training Systems NAVAIRSCOM, PMA205-3M eaglesmr@navair.navy.mil</p>	<p>COMM: (301) 757-8102 DSN: 757-8102 FAX: (301) 757-8079</p>
<p>Mr. Walt Malley UAV Assistant Program Manager, Training Systems NAVAIRSYSCOM, PMA205-3K malleywc@navair.navy.mil</p>	<p>COMM: (301) 757-8103 DSN: 757-8103 FAX: (301) 757-8079</p>
<p>LTCOL Joyce McCallister UAV Assistant Program Manager, Logistics NAVAIRSYSCOM, AIR 3.1.3.1 mccalistejl@navair.navy.mil</p>	<p>COMM: (301) 757-5818 DSN: 757-5818 FAX: (301) 757-5840</p>
<p>CDR Robin Mason Aviation NTSP Manager CINCLANTFLT, N-721 masonrf@clf.navy.mil</p>	<p>COMM: (757) 836-0101 DSN: 863-0101 FAX: (757) 863-0141</p>
<p>Mr. Bob Long Deputy Director for Training CINCPACFLT, N70 u70@cpf.navy.mil</p>	<p>COMM: (808) 471-8513 DSN: 471-8513 FAX: (808) 471-8596</p>
<p>CAPT Patricia Huiatt Deputy Assistant, Chief of Naval Personnel for Distribution NAVPERSCOM, PERS-4B p4b@persnet.navy.mil</p>	<p>COMM: (901) 874-3529 DSN: 882-3529 FAX: (901) 874-2606</p>
<p>CDR Timothy Ferree Branch Head, Aviation Enlisted Assignments NAVPERSCOM, PERS-404 p404@persnet.navy.mil</p>	<p>COMM: (901) 874-3691 DSN: 882-3691 FAX: (901) 874-2642</p>
<p>LTCOL Jon Doering Head, ACE Branch, TFS Division MCCDC, C5325A doeringjg@mccdc.usmc.mil</p>	<p>COMM: (703) 784-6241 DSN: 278-6241 FAX: (703) 784-6072</p>

PART VII - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
CDR Scott Gingery Aviation Department Head NAVMAC, 30 scott.gingery@navmac.navy.mil	COMM: (901) 874-6218 DSN: 882-6218 FAX: (901) 874-6471
Mr. Al Sargent NTSP Coordinator NAVMAC, 33 al.sargent@navmac.navy.mil	COMM: (901) 874-6247 DSN: 882-6247 FAX: (901) 874-6471
CDR Erich Blunt Aviation Technical Training CNET, ETE-32 cdr-erich.blunt@smtg.cnet.navy.mil	COMM: (850) 452-4915 DSN: 922-4915 FAX: (850) 452-4901
LCDR Barbara Righter VTUAV Operational Test Director COMOPTEVFOR, 632 righterb@cotf.navy.mil	COMM: (757) 444-5087 ext. 3205 DSN: 564-5087 ext. 3205 FAX: (757) 445-9545
LCDR John Brawford UAV Projects Officer VC-6 brawford@aol.com	COMM: (757) 444-4763 DSN: 564-4763 FAX: (757) 444-6884
AMSC Francisco G. Arias Training Coordinator NAMTRAGRU HQ, N2413 amsc-francisco.g.arias@cnet.navy.mil	COMM: (850) 452-9708 ext. 250 DSN: 922-9708 ext. 250 FAX: (850) 452-9769
Mr. Phil Szczyglowski Competency Manager NAVAIRSYSCOM, AIR 3.4.1 szczyglowspr@navair.navy.mil	COMM: (301) 757-8280 DSN: 757-8280 FAX: (301) 342-7737
AVCM Jeff Lovelady Front End Analysis Manager NAVAIRSYSCOM, AIR 3.4.1 laveladyjl@navair.navy.mil	COMM: (301) 757-3109 DSN: 757-3109 FAX: (301) 342-7737
Mr. Ben Cartwright MPT Analyst (NTSP Author) NAVAIRSYSCOM, AIR 3.4.1 cartwrighteb@navair.navy.mil	COMM: (301) 757-3098 DSN: 757-3098 FAX: (301) 342-7737